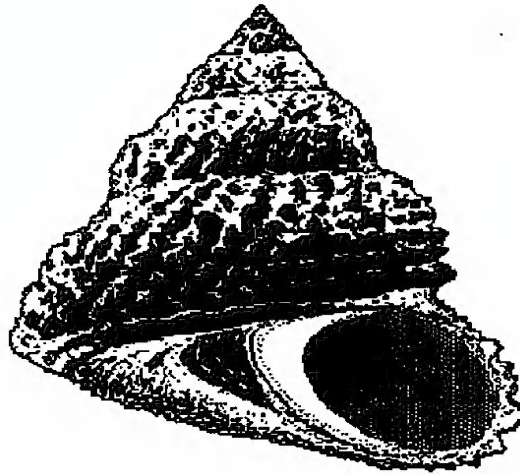


COOKIA



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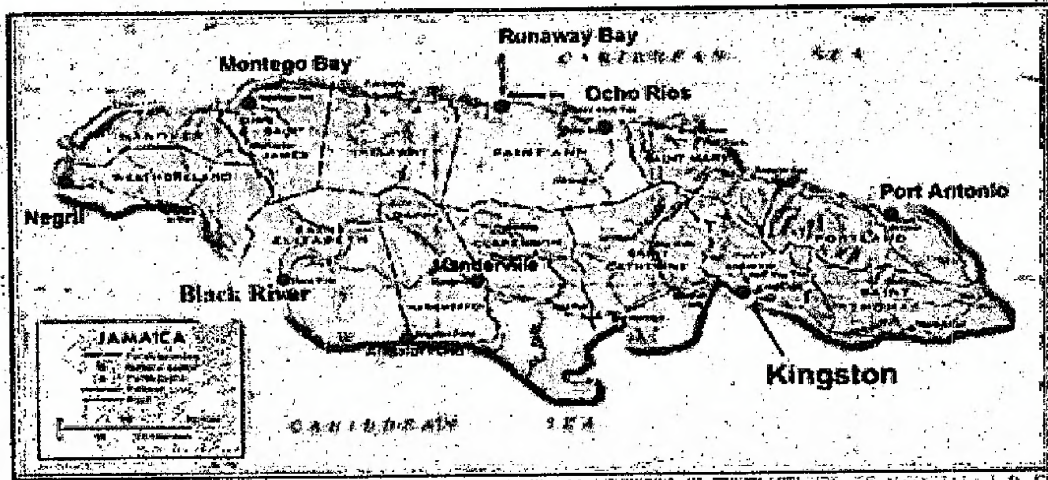
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WHERE HAVE ALL THE SHELLS GONE? JAMAICA RE-VISITED

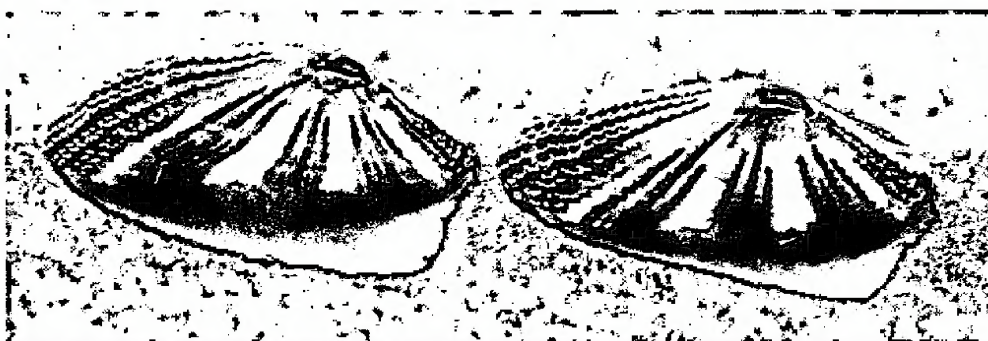
By Mary Agnes Wotton



In February of 2002 I returned to Jamaica on a family visit and was fortunate that three of my children joined me at various periods during this time. One advantage of us all being there together was having transport and company for safety reasons, in which to try and do some shell collecting as well as possibly visiting some of my old collecting haunts (Wotton 1975). This was something that had not been possible on most of my previous visits. With the high incidence of crime in Jamaica, it is not safe to go collecting on your own. Mind you, driving a car around Jamaican roads is taking your life in your hands – many of the drivers seem to have a death-wish and are hell-bent on suicide! Head-on collisions were avoided by less than a hair's breadth – a little unnerving until you get used to it, then it's just terrifying!

A week spent in the Ocho Rios area on Jamaica's North Coast yielded only a few *Acmaea antillarum* which were living on the concrete steps leading to a tiny circular beach blasted out of the surrounding rocks in front of our apartment complex. These were extremely difficult to collect as each time I bent over to insert my spatula under a limpet, the waves came pounding in and eventually succeeded in knocking me off balance! One collecting knife disappeared in the surf. Ocho Rios had always been one of my favourite collecting localities in the days when I had access to places that now have hotels built on them and beaches inaccessible to the public. Turtle Beach, the public swimming area of Ocho Rios, which had in the past yielded some interesting small specimens, was devoid of anything. A new marina had been built and consequently the beach had changed character. The beach itself was formed by dredging in the 1960s to increase the depth of Ocho Rios Harbour to allow cruise ships from the United States to be able to anchor closer to shore. As there was a very rich reef just offshore, even after many years it was possible to find interesting specimens buried in the sand.

In 1985, the last time I collected there, my prize finds were *Lucapina suffusa* (an uncommon keyhole limpet), *Diodora minuta*, *Stigmaulax sulcatus* (a species of Naticidae), three species of *Olivella* and a *Vexillum*, all new to my collection.



Dwarf Keyhole Limpet, *Diodora minuta* Lamarck, 1822.

General distribution – “Southeast Florida and the West Indies” (Warmcke & Abbott 1961: 38, pl. 5, fig. 5 [black-and-white]; Jamaica: “Relatively common on and under rocks in about 10 feet at Port Antonio, Runaway Bay and along the southern side of the Palisadoes. Dead shells are common on the beaches at Negril.” (Humfrey 1975: 51, pl. 2, fig. 26).



Cancellate Fleshy Limpet, *Lucapina suffusa* Reeve, 1850.

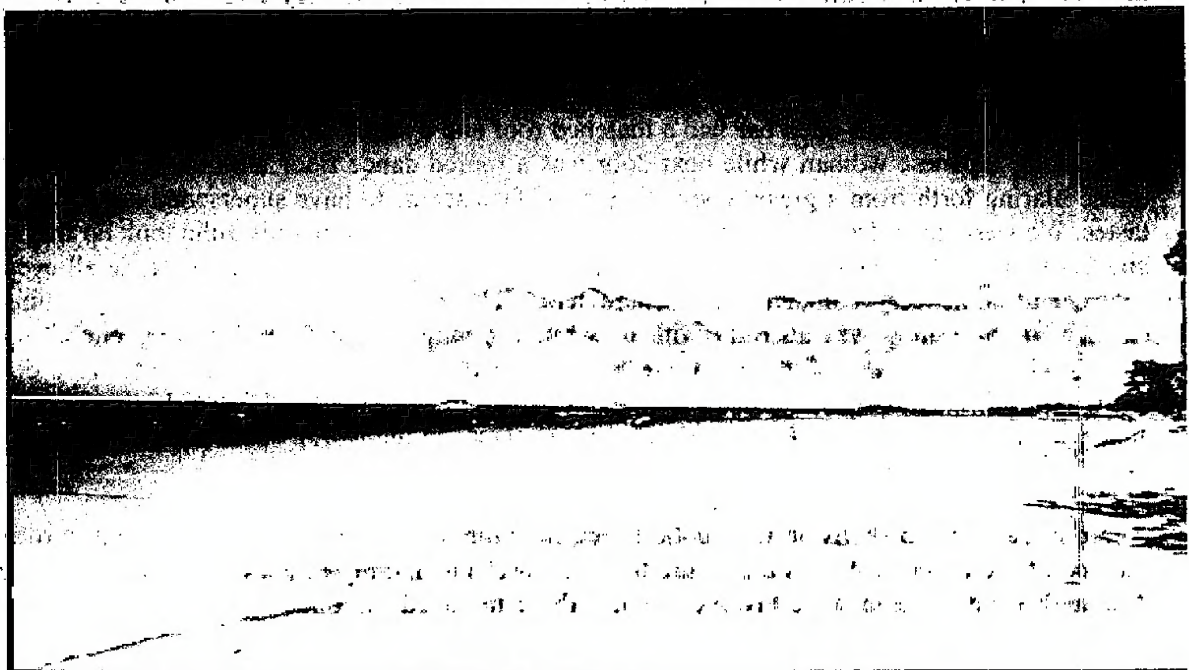
General distribution – “South half of Florida and the West Indies.” (Warmcke & Abbott 1961: 39, pl. 6, fig. f [black-and-white]; Jamaica: “Relatively common in 5 to 25 feet in the vicinity of coral reefs at Negril and in Ocho Rios harbour. Beach specimens are generally rare.” (Humfrey 1975: 52, pl. 2, fig. 11 [top view in colour]).

Further along the North Coast heading west, we stopped at Runaway Bay looking for suitable smooth rocks which might have limpets, especially specimens of *Acmaea elegans wottonae* as this was the type locality. I had originally collected specimens of these from rocks at a private cottage in 1970 while we were on holiday there. At the time I was sending wet limpet specimens to Jos Christiaens, a Belgian malacologist who specialized in limpets and had published papers not only by the Belgian Society of Malacology but also by the Museum of Natural History, Paris.

Thinking these were specimens of *Acmaea antillarum*, which I already had from various locations, I sent him the entire lot! I did not even know that it contained a new form as it was not until 1975 that Jos Christiaens published a 2-part Revision of the family Acmaeidae wherein he described *A. elegans wottonae*, a new sub-species (Christiaens 1975a: 11, pl. 1, fig. 3 (radula); 1975b: 92). In the meantime, of course, we had emigrated to New Zealand and I was not able to collect any more specimens from the type locality. And it was not until some years later that I even knew what they looked like when the Australian collector (and another limpet buff) Ivan Marrow, on one of his visits to New Zealand, pointed them out to me in my own collection, although from another locality. He had one in his collection sent to him by Jos Christiaens. The type locality for *A. elegans* is Venezuela. It also occurs in Colombia. There is a bit of convoluted synonymy involved here which requires a separate article at a later date!

But back to 2002 - on this occasion, after 30 odd years it was impossible to recognize the location of the cottage where we had stayed back in 1970. The only accessible rock we found was a ridge of sharp honeycomb with rock pools. These were mainly occupied by Neritidae and Littorinidae. Here I found my first Jamaican specimens of *Puperita pupa* (Zebra Nerite), a small white nerite with striking black stripes. It is not as widely distributed as other members of the family. The only other specimens in my collection came from Grand Cayman Island so I was thrilled to find these. Caught in sandy hollows behind the honeycomb rocks were many beached shells, among them several of the Fissurellidae. The public beach at Runaway Bay was bare of shells. Yet again, in the past, I had found a limited number of interesting species here, for example, *Morum oniscus*, *Coralliophila caribaea* and *Diodora viridula*. Mike Humfrey (1975) frequently mentions it as a collecting locality in his *Sea Shells of the West Indies*, one purpose of which was "to provide a census of all known Jamaican marine mollusks" as well as to examine the habitat of each of the shells described. Continuing west, honeycomb rocks beside the road near Falmouth turned up more *Puperita pupa* as well as the common *Nerita peloronta* (Bleeding Tooth Nerite). Florida Beach, also at Falmouth, which had been a gold mine for micro-molluscs, now has a luxury hotel built on it. Another area, which in the past had been excellent for shells, was Negril with its 7 miles of beautiful white sand beach. Unfortunately, this is now lined with hotels and all sweep their beaches clean each morning. There is not a sign of even a piece of stray seaweed, pebble, shell or broken coral! However, unlike other resort areas in Jamaica, the beach is public and anyone can walk or ride a bike along its seven miles.

THE PRISTINE BEACH AT NEGRIL !



All recorded collecting localities for these *Acmaea* are areas of black sand on the south and southeast coast of Jamaica. I have never found them in areas of white sand unlike typical *A. antillarum*.

Herein lies another mystery to be solved – are both these *Acmaea*, the netted and the rayed, the same species or are there two species and could the netted specimen be *Acmaea tenera* (C.B. Adams, 1845), type locality Port Royal, the types of which have been lost (see Clench & Turner 1950: 348)?

GEOGRAPHIC RANGES OF SPECIES NAMED IN THE TEXT

[Descriptions and illustrations can be found in the books by Warmke & Abbott and by Humfrey]

GASTROPODA

	Common name	Geographic range
FISSURELLIDAE -		
<i>Diodora cayenensis</i> Lamarck, 1822	Cayenne Keyhole Limpet	Southeast US to Brazil
<i>Diodora listeri</i> d'Orbigny, 1853	Lister's Keyhole Limpet	South Florida and West Indies
<i>Diodora minuta</i> Lamarck, 1822	Dwarf Keyhole Limpet	South Florida and West Indies
<i>Diodora viridula</i> Lamarck, 1822	Green Keyhole Limpet	Florida south to Trinidad
<i>Fissurella fascicularis</i> Lamarck, 1822	Wobbly Keyhole Limpet	Southeast Florida and the West Indies
<i>Fissurella barbadensis</i> Gmelin, 1791	Barbados Keyhole Limpet	Bermuda, Southeast Florida and the West Indies
<i>Fissurella nodosa</i> Bönn, 1778	Knobby Keyhole Limpet	Lower Florida Keys and West Indies
<i>Fissurella rosa</i> Gmelin, 1791	Rosy Keyhole Limpet	Southeast Florida and the West Indies to Brazil
<i>Lucapina suffusa</i> Reeve, 1850	Cancellate Fleshy Limpet	South Florida and the West Indies
ACMAEIDAE -		
<i>Acmaea antillarum</i> (Sowerby, I, 1834)*	Antillean Limpet	Southern Florida and the West Indies
<i>Acmaea elegans</i> Philippi, 1846*		Type locality: Laguayra, Venezuela
<i>Acmaea e. wottonae</i> Christiaens, 1975*	"Wotton's Elegant Limpet"	Jamaica (type locality: Runaway Bay)
TROCHIDAE -		
<i>Cittarium pica</i> Linnaeus, 1758	West Indian Top Shell	Southeast Florida & the West Indies
NERITIDAE -		
<i>Nerita peloronta</i> Linnaeus, 1758	Bleeding Tooth	Bermuda, southeast Florida & the West Indies
<i>Puperita pupa</i> Linnaeus, 1767	Zebra Nerite	Southeast Florida & the West Indies

NATICIDAE -		
<i>Stigmaulax sulcata</i> Börn, 1778	Sulcate Natica	West Indies
CASSIDIDAE -		
<i>Morum oniscus</i> Linnaeus, 1767	Atlantic Woodlouse	Southeast Florida and the West Indies
MAGILIDAE -		
<i>Coralliophila caribaea</i> Abbott, 1958	Caribbean Coral Shell	Southeast Florida and the West Indiesj

BIVALVIA

VENERIDAE -		
<i>Pitar dione</i> Linnaeus, 1758	Royal Comb Venus	Texas to Panama
MACTRIDAE		
<i>Macra alata</i> Spengler, 1902	Winged Macra	Caribbean to Brazil

* According to the Western Atlantic Gastropod Species Database of The Academy of Natural Sciences, Philadelphia, *Tectura antillarum* (Sowerby I, 1834), family Lottiidae), includes *Acmaea elegans* Philippi, 1846, and *A wottonae* Christaens, 1975. Details of type localities, range and distribution etc. can be found at <http://erato.acnatsci.org/wasp/search.php/54>.

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TRYON, G.W.; PILSBRY, H.A. 1891: *Manual of Conchology*, Vol.XIII [Part 49. Pp 1-64, pls 1-15]. *Monographs of the Acmaeidae, Lepetidae, Patellidae and Titiscaniidae*. Pp 1-186, pls 1-74. Philadelphia: Conchological Section, Academy of Natural Sciences. ["West Indian species", pp 36-43]

WARMKE, Germaine L.; ABBOTT, R. Tucker, 1961: *Caribbean Seashells. A guide to the marine mollusks of Puerto Rico and other West Indian islands, Bermuda and the Lower Florida Keys*. Narbeth, Penn.: Livingston Publishing Company. Pp x, 348, text-figs 1-34, pls 1-4, 19 maps [also 1975, New York: Dover Publications, Pp xx, 348].

WOTTON, M.A. 1975: Some notes on collecting in Jamaica. *Wellington Shell Club Bulletin* 36.

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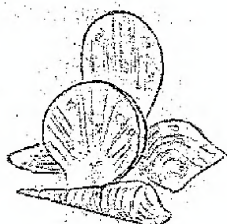
Editor's note: The colour photographs of *Diodora minuta* and *Lucapina suffusa* are especially interesting in that these are side views of the shells contrasting with the top views given in the two standard texts cited, i.e. in Warmke & Abbott and in Humfrey. The colour pattern of *Diodora minuta* can now be seen very distinctly.



AN INVITATION TO AN UNVEILING

By Jill Burnet

If you have walked along the eastern side of Lambton Quay this year, you will have seen the sculpture 'Shells' – in fact, I don't see how any self-respecting shell collector could miss such a group of shells, the tallest of which is fully 6 feet high. I was there, representing our Club, when this sculpture was unveiled. Pat Lakeman should have been there too, but she came up with with some incredibly good, last minute reason for deserting me. Wellington Shell Club received an invitation to the ceremony as we had contacted the sculptor, Jeff Thomson, after seeing some advance publicity about his piece, which mentioned that he enjoyed walking along beaches picking up shells. And so, on the afternoon of Friday 29 November, the day after our AGM, I walked up Woodward Street, and joined the group of people gathered there. Kerry Prendergast, the Mayor of Wellington, arrived soon after, accompanied by Rex Nicholls and some of the City councillors – I began to feel that these were not the circles in which I was accustomed to move – and the proceedings got underway with speeches. Neil Plimmer of the Wellington Sculpture Trust explained that the sculptures being erected around the city were the successful entries in a competition organised by the Trust. Two sculptures were being unveiled that afternoon, 'Spinning Top' in Woodward Street, and 'Shells' on the corner of Lambton Quay and Waring Taylor Street.



The sculptors then spoke about their works and the ideas behind them. Jeff Thomson had come up with the theme of shells, as Lambton Quay was on the original shoreline of Wellington city. The sculpture consists of 5 big shells, and, stuck on the surfaces of these are all sorts of bits and pieces – small shells, starfish, old shoe soles, paint brush, G-clamp, toy cars, clothes pegs, and so on. These represent the flotsam and jetsam that you find washed up along the tide line of a beach. When both the sculptors had spoken, Kerry Prendergast had the final word, enthusing over the sculptures and promoting the concept of a creative Wellington. After we had looked at the 'Spinning Top' in Woodward Street, we followed two men blowing shell trumpets down to Lambton Quay. One of the shells they used was *Charonia tritonis*, the other looking to me like a big helmet shell – perhaps it was just as well that Pat Lakeman, a keen cassid collector, didn't see it. We all stood around blocking the footpath and admiring 'Shells' which, at that time, was plain, unadorned concrete – it has since been painted with metallic paint in various colours. Photographs were taken, and, to my surprise, my photo (though not Kerry Prendergast's) only appeared in the next issue of *Capital Times* but, and it's a big but, without mention of the Wellington Shell Club – which I had particularly emphasised, thinking it would be good publicity for us.

The trumpeters than led us back up Woodward Street, where drinks were laid on for the invited guests. However, at this stage, I felt that I'd had enough of the ceremonies, and could enjoy creative Wellington more by going to look at Kirkcaldie's Christmas window display!



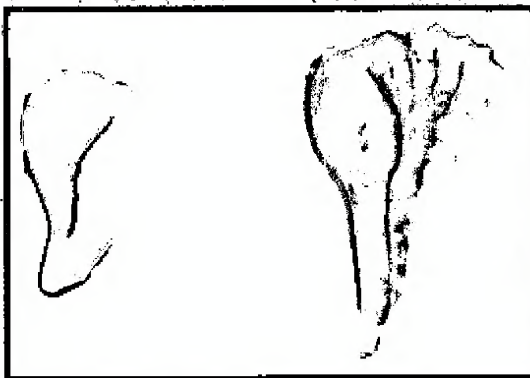
Editor's note: A rather nice colour photograph of Jeff Thomson's 'Shells' was printed on page F8 of *The Dominion Post* of 24th May 2003, with contact details for joining the Wellington Sculpture Trust, set up to "help enrich Wellington through sculpture and public art."

A TRIP TO FLORIDA AND THE BAHAMAS

By Zvi Ori

I must admit that the bulk of my shell collection is from the Indo-Pacific, N.E. Atlantic and the Mediterranean Sea. When I had to decide where to go for my next shell collecting trip, Madagascar was not recommended, because of political turmoil it was considered unsafe, and India was dropped as it was the beginning of the Monsoon season and extremely hot, so with little hesitation, I chose the West Atlantic - of which Florida and the Bahamas seemed to be the most promising. On consulting a colleague from New York, Steve Rosenthal, with whom I had exchanged shells, he advised me of the localities he knew and recommended, so this was a good initial start. I landed in Miami, and luckily was invited by Kevan and Linda Sunderland, to see their collection. What an amazing endeavour, spanning over many decades, they have accumulated the most extensive and finest collection of over 3000 species of gastropods of the Region, with many new and some unnamed species. This was an appropriate introduction into which, for me, was indeed a "New World" (as it is termed in historical references). It will not cause raised eyebrows, if I tell that I headed directly for Sanibel Island, although I was warned that it was not the ideal season (it was May, and the winter season is recommended for the area). I found myself wonderful accommodation at Sunshine Island Inn, not far from the beach, with a swimming pool included, and a little separate cabin, ideal for attending to the cleaning of my shells.

I set out on my forays, scouring the beaches (as I prefer to disturb the habitats as little as possible): Gulfside City Park, Bowman's Beach and Blind Pass Bridge - both Captiva and Sanibel Island sides, and the flats in between with shallow pools of brackish water, inhabited by many *Melongena corona* and *Batillaria minima*. Washed up on the beaches, large specimens of *Atrina rigida* were plentiful, and many other bivalves such as *Anadara floridana*, *Noetia ponderosa*, *Plicatula gibbosa*, *Argopecten gibbus* in many colors, *Trachycardium egmontianum*

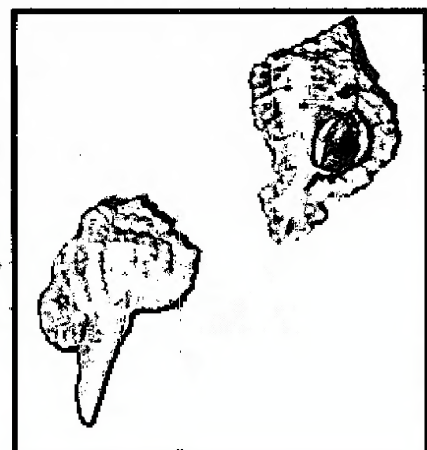


Ficus p. papyratia (left), *Busycon contrarium* (right)

and *T. muricatum*, and *Raeta plicatella*. *Crepidula fornicata* which is so common in Western Europe, is also found there. The shallows opposite the Lighthouse, at the south end of Sanibel, were a pleasant surprise: at the crack of dawn, at low tide, I found quite a few tourists already searching the area, but we each had our luck I found 30 species washed up there, including *Strombus alatus*, and a wonderful prize - an intact specimen of *Ficus papyratia* (most of the specimens were broken because of their thin shell), also *Busycon contrarium*

(the largest sinistral shell I have found so far, 90mm. long), and *Busycon spiratum*, a dextral species identified by its narrow channel at the suture. There I also found 2 interesting Muricidae - *Chicoreus pomum* and *Calotrophon ostrearum*. Worthy of note were the large specimens of *Dinacardium vanhiningi*, and *Dosinia discus*. Altogether on Sanibel and Captiva Islands, I collected 65 species.

Murex rubidus (left), *Chicoreus pomum* (right)



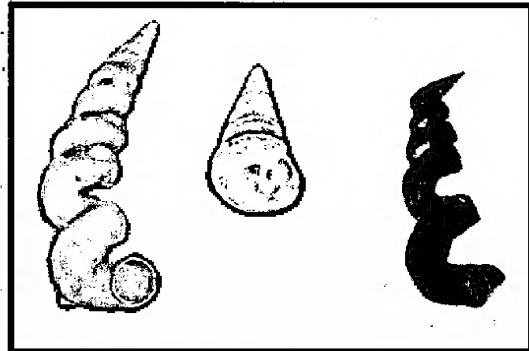
According to my habit, I have to see other aspects of each habitat, and made a short trip to the Ding Darling National Wildlife Refuge, which turned out to be disappointing, with very little bird life in evidence; but I managed to see a raccoon, which walked alongside my car for some distance till he disappeared in the undergrowth. However, my compensation was a visit to the nearby famous Bailey-Mathew Shell Museum. I was introduced to the staff, and saw their impressive collection and library, and heard about some of the research conducted there.

My next stop after leaving Sanibel, was the mangrove flats on Lover's Key State Recreation Area. Here I was greeted in the late afternoon, at low tide, by masses of crabs feeding in the mud, literally thousands of them, covering the ground, which reminded me of the film I saw on TV about the mass crab migration on Christmas Island.

Here I found piles of *Vermicularia spirata* (that impressive turritellid, with its increasing uncoiled lower whorls), interspersed with what seemed a special *Carditamera floridana* (which I called a mangrove form), and in addition *Tellina angulosa*.

I also spotted, to my great surprise the backbone of a Sailcat Fish, which is called the Crucifix Fish (once given to me as a present), as the backbone resembles The Crucifixion.

Vermicularia spirata (left and centre),
V. knorri (right)



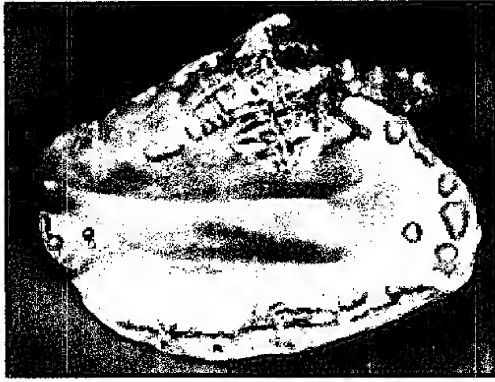
Then I drove down to the Florida Keys. From my base on Grassy Key, I searched the Atlantic beaches of the Middle Keys: Vaca, Missouri and Ohio, and Key West: Boca Chica Beach. The largest number of species were found on Ohio Key - 44 species in all, on its sandy and rocky shores, with occasional mangroves. After a careful check, I discovered that 34 of these species had not been found before by me on the Gulf side of West Florida: 15 species were Gastropods, of them only 4 are also found in Europe - *Diodora cayenensis*, *Crepidula aculeata* and *Cymatium labiosum*, which are found only in the Canary Islands, and *Bulla striata* (or sometimes here called *B. occidentalis*) which is found in the Azores, Canary Islands and Mediterranean, including Israel. The 19 Bivalves are not found in Europe. Worthy of mention, is that in the above Keys, I found my first *Conus* species - *C. jaspideus* and *C. floridanus*. Among the bivalves were 5 Arcidae including the impressive *Arca zebra*, and 2 pearl oysters: *Pinctada imbricata*, *Pteria colymbus*, and a fine specimen of *Chama macerophylla*, yellow in colour. In beach drift I also found some microshells, which are still being classified.



Strombus raninus

On Boca Chica Beach, Atlantic side, at low tide the rocky beach exposed a beautiful specimen of *Strombus raninus*, some *Marginella* which need to be checked, and large specimens of *Codakia orbicularis* and *Lucina pensylvanica*. Altogether in the Keys I found 45 species, which I had not found in West Florida.

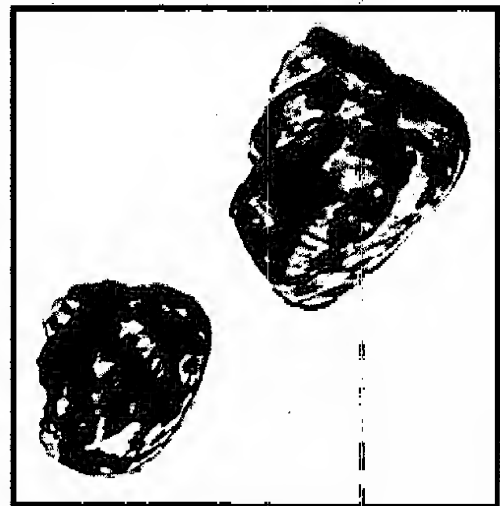
From Miami I flew to Nassau, in the Bahamas, from which there were ferryboats to the surrounding islands. On the South beach on New Providence Island, opposite Nassau, among other species. I found fine specimens of *Nerita tessellata* and *N. versicolor*, *Olivella exilis* and a



Strombus gigas

shells were being offered for sale. In Florida it is forbidden to collect this species, with a threat of a \$500 fine on offenders. The Bahamas are apparently not partner to this prohibition.

The Fast Ferry took only an hour and a half to Spanish Wells, a small island on the Northern end of Eleuthera, which is a long thin island, east of New Providence. I had decided to search this island for shells. I crossed by a small ferry to the mainland of Eleuthera, and wanted to rent a car and drive to various beaches, but on learning that no insurance could be taken out on the Island, I hired a taxi and benefited from the local knowledge of the driver. On the Atlantic side I found some large Trochidae: *Cittarium pica*, some other Nerites: *Nerita peloranta* and *N. versicolor*, *Olivella nivea* and 3 species of Mytilidae. On the bay side at Hatchet Bay, I found my first beached rather worn specimens of *Strombus costatus*, and *Astraliu phoebium*, an unusual Turban, with triangular spines creating a star-shaped figure, formerly classified in the genus *Astraea*.



Cittarium pica

Being rather disappointed with my finds, I was recommended to try Harbour Island off the N.E. corner of Eleuthera, on the Atlantic side, and decided to spend my last 2 days there. This turned out to be a wise decision. I crossed by a short ferry ride to the island and found a small homely hotel, with a secluded room with a water tap outside, and a flat concrete surface, suitable for cleaning my shells. This is a small island, only 3 miles long N. to S. and about a mile wide. I immediately set out through a tropical forest, to the shore in the East called Pink Beach, Atlantic side, reputed to have received its colour from sand created from shells, presumably predominantly pink. In the late afternoon it was low tide, and the wide stretch of sandy beach, which was deserted, was interrupted by a few rocky outcrops. Only on these rocks I found 3 interesting Littorinidae, all common: *Tectarius antonii* (of the splash zone), *Nodolittorina angustior* (of the intertidal zone), and *Cenchritis muricatus* (usually found above the high tide line), the latter in large batches. Some Arcidae and Lucinidae were also found in the sandy areas, and I was glad to find 2 specimens of *Spirula spirula* (which I have also found in the Canaries and South Africa), that worldwide cephalopod, which so much reminds one of a minute ammonite, that famous 'Index Fossil', found extensively in Israel. That evening while seeking a supermarket, I was once more voluntarily helped by a friendly local resident, who drove me there.

The following morning at the crack of dawn I went to the West bay side coast. As I passed by the Fishing Boat Jetty, on the waterline I saw 2 huge shells, which I immediately recognised as *Strombus gigas*. They both had a slit near the apex, as seen in Nassau, and were empty so they had obviously been discarded by a fisherman. They were very heavy, so I could only take one, a beautiful specimen, with a broadly flared outer lip, mouth pink inside, and marginally whitish and light brown, also on the columellar callus. I was overjoyed, and took it promptly back to my room, as I couldn't carry it around while shelling (subsequently I found it measured 260mm and weighed 1.85kg). It was low tide, and I found many shells not seen by me before. As I was walking past, a lady wading in the shallows noticed I was collecting shells, and saying that she lives there, and can collect many more, gave me all the shells she had found that day, and afterwards more which she had collected previously, including a *Cypraea zebra*. I continued encircling the island, and found some interesting specimens on the rocky northern shore, in a sandy cove. Altogether on Harbour Island I collected over 70 species.

On my return to Nassau, I joined a snorkelling expedition to the surrounding coral reefs. They turned out to be unimpressive, but one location was memorable – 26 Reef Sharks were counted in the depths below where we were swimming, they were attracted by the fish heads lowered in a bucket with holes, to a depth of about 10 metres. Fortunately none came up to the surface, where we remained very close to the boat. I visited the local Botanic Gardens, which regrettably had been devastated by a hurricane 2 years earlier, and would take many more years to restore.

Thus ended my sojourn to one of the most interesting corners of the West Atlantic. I returned with over 180 species, very few of which could be found in the East Atlantic or Mediterranean. I thoroughly enjoyed the close contact with the natural habitats I had visited, saw many interesting birds, new to me, and some unusual environments. But I was also enriched by close contacts with fine people, malacologists, shell collectors and simple kind folk, who always add the human touch to my ventures.



ANOTHER NEW FRESHWATER SNAIL INTRODUCED INTO NEW ZEALAND: *Melanoides tuberculata* ...

A paper published last year in the *New Zealand Journal of Marine and Freshwater Research* notes another addition to our introduced molluscan fauna:

DUGGAN, I.C. 2002: First record of a wild population of the tropical snail *Melanoides tuberculata* in New Zealand natural waters. *New Zealand Journal of Marine and Freshwater Research* 36 (4): 825-829.

Abstract: "The thiarid snail *Melanoides tuberculata* (Müller, 1774), native to the Middle East and East Africa, is recorded from the wild in New Zealand for the first time from a geothermally influenced stream at Golden Springs, near Taupo. Introduction was most likely the result of one or more releases from tropical aquaria, although the timing of release is uncertain. Specimens were collected at temperatures of 29.0 and 30.4° C, and survival at these sites is likely dependent on the elevated stream temperatures. The possible spread of this species to other habitats, and potential effects on native thermal water communities are discussed."

Well, that's something to look for next time you're holidaying in our thermal regions; and you'll maybe add some new information about its dispersal and habitat preferences.

TAHUNANUI BEACH & ROCKS ROAD – NELSON

By Doreen Burr¹

We've been living in Nelson for several years now, with frequent visits to Tahuna Beach, as it is called by locals. It is a *very* gently sloping, fine sandy beach, bounded by rocks at one end and a sandspit at the other. The tide rises and falls by as much as four and a half metres at times (only two metres at other times), so these low tides make for very interesting 'finds', particularly among the rocks (not only shells!). There are muddy areas nearby, in both directions, so many shells of mud dwellers too wash up on the beach.

Situated towards the southern end of Tasman Bay, Tahuna Beach² is very sheltered, the north to north-westerly winds having most effect. We can be experiencing calm seas while the Cook Strait ferries are riding out a storm!

Come with me as I start a journey of discovery, taking highway 6 South from Nelson City, along Wakefield Quay, past the trendy restaurants, the wharves and the high rise apartments under construction at the moment (we understand that there is a move afoot to establish a penguin colony beneath the wharf and, possibly, an aquarium). There are steps giving access down the sea-wall to the littoral zone along Rocks Road and, when the tide is out, one can walk along the shoreline to Tahunanui Beach. It *can* take some time! The sea wall itself is home to limpets, oysters and mussels. There is soft rock here, home to the rock borers and to those which later take advantage of the readymade sheltering cavities left behind. Beneath the boulders here is shelter too.

Commonly found alive are the white angel wings (*Barnea similis*), the carnivorous whelks (*Cominella adspersa* and *C. virgata*), *Buccinulum vittatum* – with varying colours and patterns, turrets (*Maoricolpus roseus*), cat's eyes (*Turbo smaragdus*), limpets and chitons.

I am looking for shells, I tell myself, but it is easy to be sidetracked. In the shallow water, the pretty, feathery tentacles of the sand tubeworms are retracted in an instant as I approach.

Low tide levels reveal a rocky point reaching towards Fifeshire Rock. The rock crevices and the sandy channels and pools between the rocks are full of life. On several occasions I have found a number of small *Gari stangeri* shells lying on the floor of one of the wide sandy channels. Some of their muscle remained attached to the shell indicating that they had been eaten only recently. A few *Tawera spissa*, *Pseudarcopagia disculus*, and *Dosina zelandica* were with them and empty *Ruditapes largillierti* are always to be found in numbers all the way along the rocks (and the beach, of course). Here, on the furthest rock face I found my first live *Cellana stellifera*. Then I saw others. As with much of the 'life' here, they were camouflaged by heavy encrustation. The red and green 'butterfly' chitons, large black *Scutus* and shell-less slugs, kina urchins (*Evechinus chloroticus*), the occasional octopus which ventures from its safe haven in a rocky cavity, large colourful starfish (did *they* eat the *Gari* mentioned earlier? – I do feel *they* would have left *nothing* behind); all these creatures fascinate me. *Cookia sulcata*, 'our' shell, is always to be found living beneath the rock ledges at low tide level, sharing the habitat with kina. The *Cookia* here are

¹ With moral support from Ivan.

² See also – BURNET, J. 1981: A holiday in Nelson and Collingwood. *Cookia* 4 (2): 11-13; BURNET, J. 1995: Nelson in the 1980s. *Cookia* 7 (2): 25-26.

always encrusted so not very attractive – but they're there! I'm slowing - and there's a wee way to go before we reach Tahunanui Beach proper.

Among the low rocky platforms, long rocks stand looking out to sea like benches facing a stage. Sometimes they're covered with mussels and oysters (the introduced *Crassostrea gigas*) and the carnivorous *Dicathais* and *Lepsiella*. Sometimes most of the oyster shells are empty.

There is no "washup" along here as the tide comes in right up to the road and, on rare occasions, the aforementioned nor'westerlies coincide with an extra high tide, and the road is awash with sea water and closed to traffic.

Sandy pools by the rocks at the end of the beach sport many hermit crabs, particularly tiny ones, with a variety of interesting "homes". Some scurry about on the sandy floor, but many cling to the side of the rock and clamber over each other, jostling for position. It's a real challenge trying to identify the little shells I find.

The rocks have given way to sand, a rather muddy sand in places at times. The little brown olive shell, *Amalda australis*, is abundant, burrowing just beneath the surface of the sand (hunting for bivalves, no doubt). This area is favoured too by the many 'cake urchins'. The carnivorous *Cominella adspersa* also burrows beneath the sand looking for a meal and I've found a few *Struthiolaria papulosa* and one only *Scalpomactra scalpellum* alive here. Abundant are *Dosinia* (*anus* and *subrosea*), tuatua (*Paphies subtriangulata*), and –well – see the accompanying list.

In the corner here a small stream flows from the hill, a possible source of some of the freshwater shells, and possibly land snails too, found in the shell sand which is sometimes here in large drifts. Other freshwater shells or land snails may drift down the Maitai River, past the port, and on to Tahuna Beach (driftwood often floats along this path surprisingly quickly).

Work is now being done to stop the erosion of the dunes behind Tahuna Beach which stretches away from the road towards Rabbit Island which lies across the channel and sandflats. If only we could walk there - it's a long drive around! At the end of the beach is "The Spit" which, when the tide is very low, seems to extend almost to Haulashore Island. Shell sand can often be collected at this end of the beach too. On one visit here we were privileged to see a group of dolphins swim in along the spit almost to the beach in very shallow water. They frolicked with swimmers and paddlers for a while and then swam on.

Other 'work' being done in the vicinity is the continual dredging of "The Cut", the gap in the Boulder Bank which allows ships into the port. We local shell collectors consider that this activity causes greater washups containing, with the fresher material, much debris that has lain on the sea floor for some time.

The beach is usually strewn with empty and broken shells – almost all bivalves. A good washup can yield many still containing animals – once I collected a few scallops! Further on, up the channel, the sand gives way to mud and here live some of the mud dwellers that wash up on Tahunanui Beach. Others may wash down from the muddy Nelson Haven, north of the city and bordered by the Boulder Bank.

The following is a list of most of the shells that I have found in the Rocks Road and Tahunanui Beach area (numbers given refer to the applicable page in A.W.B. Powell's manual of New Zealand Mollusca). Missing are the chitons and many of the mostly tiny shells which I have not yet identified. (Next time!)

Tahunanui Beach & Rocks Road – Nelson: species list

(L) = living specimen(s) found

BIVALVIA

- | | |
|--|---|
| 363 <i>Solemya parkinsonii</i> | 417 <i>Peronaea gaimardi</i> |
| 356 <i>Nucula hartvigiana</i>(L) | 418 <i>Pseudarcopagia disculus</i> |
| 356 <i>Nucula nitidula</i>(L) | 417 <i>Rexithaerus spenceri</i> [rarely] |
| 362 <i>Neilo australis</i> | 417 <i>Tellinota edgari</i> |
| 374 <i>Zelithophaga truncata</i>(L) | 418 <i>Gari-stangeri</i> |
| 364 <i>Barbatia novaezealandiae</i> | <i>Gari convexa</i> |
| 366 <i>Glycymeris modesta</i> | 418 <i>Gari lineolata</i> |
| 365 <i>Tucetona laticostata</i> | 418 <i>Soletellina nitida</i> |
| 372 <i>Mytilus galloprovincialis</i>(L) | 419 <i>Soletellina siliquens</i> |
| 372 <i>Perna canaliculus</i> | 420 <i>Leptomya retiaria retiaria</i> |
| 372 <i>Aulacomya atra maoriana</i> | 427 <i>Dosina zelandica</i> |
| 373 <i>Modiolus areolatus</i> | 427 <i>Dosina crebra</i>(L) |
| 374 <i>Modiolarca impacta</i>(L) | 426 <i>Austrovenus stutchburyi</i>(L) |
| 375 <i>Atrina zelandica</i>(L) | 427 <i>Bassina yatei</i> |
| 376 <i>Crassostrea gigas</i>(L) | 425 <i>Protothaca crassicosta</i> |
| 375 <i>Ostrea chilensis</i> | 424 <i>Tawera spissa</i>(L) |
| 377 <i>Pecten novaezealandiae</i>(L) | 423 <i>Dosinia lambata</i> |
| 374 <i>Talochlamys zelandiae</i>(L) [including
forms <i>dieffenbachi</i> & <i>zeelandona</i>] | 423 <i>Dosinia anus</i>(L) |
| 383 <i>Pododesmus zelandicus</i> | 423 <i>Dosinia subrosea</i>(L) |
| 383 <i>Limaria orientalis</i> | 425 <i>Notocallista multistriata</i> |
| 382 <i>Limatula maoria</i> | 425 <i>Irus reflexus</i> |
| 388 <i>Diplodonta striatula</i> | 425 <i>Irus elegans</i> |
| 389 <i>Lasaea hinemoa</i> | 426 <i>Ruditapes largillierti</i>(L) |
| 391 <i>Borniola reniformis</i> | 428 <i>Corbula zelandica</i> |
| 392 <i>Myllita stowei</i> | 428 <i>Hiatella arctica</i> |
| 393 <i>Myllitella vivens vivens</i> | 428 <i>Panopea zelandica</i> |
| 393 <i>Kellia cycladiformis</i> | 429 <i>Barnea similis</i>(L) |
| 400 <i>Cardita aoteana</i> | 429 <i>Pholadidea suteri</i>(L) |
| 407 <i>Purpurocardia purpurata</i> | 429 <i>Pholadidea tridens</i>(L) |
| 413 <i>Pratulum pulchellum</i> | 433 <i>Offadesma angasi</i> |
| 413 <i>Cyclomactra ovata</i> | 433 <i>Thracia vegrandis</i> |
| 413 <i>Cyclomactra tristis</i> | 432 <i>Myadora boltoni</i> [single valves only] |
| 413 <i>Mactra discors</i> | 432 <i>Myadora striata</i> .. (L) [washed up] |
| 413 <i>Mactra murchisoni</i> | |
| 414 <i>Maorimactra ordinaria</i> | |
| 414 <i>Oxyperas elongata</i> [one complete shell
washed up containing animal] | |
| 414 <i>Scalpomactra scalpellum</i> [one complete
shell washed up containing animal] | |
| 414 <i>Spisula aequilatera</i> | |
| 414 <i>Resania lanceolata</i> | |
| 414 <i>Zenatia acinaces</i> | |
| 415 <i>Paphies australis</i> | |
| 416 <i>Paphies subtriangulata</i>(L) | |
| 417 <i>Macomona liliana</i>(L) | |
| 417 <i>Moerella huttoni</i> [single valves only] | |

SCAPHOPODA

- 353 *Antalis nana*

GASTROPODA

- 42 *Cellana denticulata*(L)
- 43 *Cellana ornata*(L)
- 43 *Cellana radians*(L)
- 44 *Cellana stellifera*(L)
- 48 *Notoacmea elongata*
- 48 *Notoacmea helmsi*
- 46 *Patelloida corticata*

- 36 *Haliotis iris*
 37 *H. virginea virginea*
 38 *Emarginula striatula*
 40 *Scutus breviculus*(L)
 40 *Tugali suteri*
 57 *Cantharidella tessellata*
 55 *Cantharidus opalus* [one broken]
 55 *Cantharidus purpureus* [rarely, first Dec. '98]
 53 *Diloma subrostrata*
 53 *Melagraphia aethiops*(L)
 57 *Micrelenchus huttonii*
 57 *Micrelenchus sanguineus*(L)
 57 *Micrelenchus tenebrosus*(L)
 56 *Micrelenchus dilatatus* [rarely]
 56 *Micrelenchus caelatus* [*elongatus* form]
 58 *Trochus tiaratus*(L)
 58 *Trochus viridis*(L)
 52 *Herpetopoma bella* [rare]
 65 *Antisolarium egenum*
 65 *Zethalia zelandica*
 [becoming more common]
 62 *Calliostoma punctulatum*
 61 *Calliostoma selectum*
 62 *Calliostoma waikanae*
 67 *Cookia sulcata*(L)
 66 *Turbo smaragdus*....(L)
 131 *Zeacumantus lutulentus*(L)
 [on Haulashore Island]
 130 *Zemelanopsis trifasciata*
 125 *Maoricolpus roseus*(L)
 127 *Zeacolpus pagoda*
 128 *Serpulorbis zelandica*
 87 *Nodilittorina antipodum*(L)
 87 *Nodilittorina cincta*(L)
 88 *Risellopsis varia*(L)
 101 *Pisinna zosterophila*(L)
 106 *Rissoina chathamensis*
 142 *Struthiolaria papulosa*(L)
 143 *Pellicaria vermis*
 149 *Crepidula monoxyla*(L)
 [= *Maoricrypta sodalis* Marshall, 2003]
 148 *Sigapatella novaezelandiae*(L)
 149 *Sigapatella tenuis*
 147 *Trichosirius inornatus*
 150 *Lamellaria ophione*(L)
 154 *Tanea zelandica* [uncommon]
 251 *Epitonium minora*
 251 *Epitonium jukesianum*
 254 *Janthina exigua*
 254 *Janthina janthina*
 170 *Poiriera zelandica* [one only - very worn]
 174 *Xymene ambiguus*
 173 *Xymene plebeius*
 174 *Xymenella pusilla*
 175 *Xymene traversi*
 179 *Dicathais orbita*(L)
 180 *Haustrum haustorium*(L)
 180 *Lepsiella albomarginata*(L)
 [& *rutila* form - one only]
 180 *Lepsiella scobina*(L)
 197 *Austrofusus glans*
 198 *Austrofusus chathamensis*
 199 *Buccinulum linea*
 199 *Buccinulum vittatum*(L)
 192 *Cominella adspersa*(L)
 193 *Cominella glandiformis*....(L)
 192 *Cominella maculosa*(L)
 193 *Cominella virgata*(L)
 200 *Penion sulcatus*
 206 *Taron dubius*(L)
 188 *Macrozafra vivens*
 185 *Zemitrella choava*
 211 *Alcithoe arabica*
 212 *Alcithoe fusus fusus*
 208 *Amalda (Baryspira) australis*(L)
 208 *Amalda (Baryspira) depressa*
 208 *Amalda (Baryspira) mucronata*
 209 *Amalda (Gracilispira) novaezelandiae*
 220 *Mesoginella pygmaea*
 216 *Austromitra rubiginosa*
 234 *Phenatoma rosea*
 234 *Phenatoma zelandica*(L)
 [one only washed up]
 237 *Neoguraleus finlayi*
 238 *Neoguraleus lyallensis*
 238 *Neoguraleus sinclairi*
 238 *Neoguraleus murdochi*
 246 *Pervicacia tristis*
 265 *Agatha georgiana*
 258 *Chemnitzia zelandica*
 272 *Philine auriformis*
 272 *Philine powelli*
 275 *Haminoea zelandiae*
 291 *Trimusculus conicus*
 293 *Benhamina obliquata*(L)
 292 *Siphonaria australis*(L)
 294 *Amphibola crenata*(L)
 295 *Leuconopsis obsoleta*
 294 *Marinula filholi*
 294 *Ophicardelus costellaris*
 296 *Austropeplea tomentosa*
 297 *Glyptophysa variabilis*

CEPHALOPODA

- 439 *Spirula spirula*

MARINE MOLLUSCA – RABBIT ISLAND, NELSON

By Jim Harding

Rabbit Island³ is 14 km from Stoke and a further 7 km from Nelson city centre. To get there, one would follow the road that goes to Motueka and turn off to the right before the Moutere hills. It is well sign-posted.

The island approximately 9 km long. The best collecting is done from the Domain car park to the eastern end and will take an average of 45 minutes to the end – that is, without stopping. Rabbit Island is, without doubt, a good collecting area and has shell washups most of the time; it often has a surprise or two for a shell collector. The tidal drift is from west to east, and very often one will find a build up of shells along the last four to five hundred metres to the end of the island, and that is where one will sometimes find some good shell sand to take home to sort through.

I have been collecting along Rabbit Island for the last 36 years but it is only over the past 10 years that I have been collecting on a regular basis (two or three times a week). I have seen some huge washups of *Struthiolaria papulosa*, *Atrina zelandica*, *Macraa discors*, *Maorimacra murchisoni*, *M. ovata*, *Offadesma angasi*, *Dosinia anus*, *D. subrosea*, *D. lambata*, *Zenatia acinaces*, *Resania lanceolata*, and *Paphies subtriangulata*, and, more recently, *Limaria orientalis*.

The species in the list that follows will not all be found in two or three trips. It took me around three years before I found complete pairs, and in good condition, of *Resania lanceolata*, *Zenatia acinaces*, and *Offadesma angasi*. It also took a little while and a good number of trips before I found good pairs of *Gari lineolata*. Occasionally, good pairs of *Panopea zelandica* wash in and, at certain times of the year, one can find good pairs of *Tellinota edgari*, also *Soletellina siliquens*. This list is not complete because I still have more shell sand to check through and also hundreds of tiny shells to put names to which will be added as they are identified.

BIVALVIA

Nucula hartvigiana
Neilo australis
Barbatia novaezealandiae
Tucetona laticostata
Mytilus galloprovincialis
Perna canaliculus
Modiolarca impacta
Atrina zelandica
Saccostrea glomerata
Pecten novaezealandiae
Talochlamys zelandiae
Pododesmus zelandicus
Limaria orientalis
Limatula maoria

Lasaea hinemoa
Myllitella vivens vivens
Cyclomacra ovata
Macraa discors
Macraa murchisoni
Maorimacra ordinaria
Oxyperas (Pseudoxyperas) elongata
Spisula (Crassula) aequilatera
Resania lanceolata
Zenatia acinaces
Paphies australis
Paphies subtriangulata
Macomona liliana
Peronaea gaimardi

³ See also GOURLAY, E.S. 1967: Collector's luck. *Wellington Shell Club Bulletin* 6; BURNET, J. 1981: A holiday in Nelson and Collingwood. *Cookia* 4 (2): 11-13.

Pseudoarcomopagia disculus
Rexithaerus spenceri
Gari (Gobraeus) stangeri
Gari (Psammobia) lineolata
Soletellina nitida
Soletellina siliquens
Leptomysa retiaria retiaria
Dosina crebra
Dosina zelandica
Austrovenus stutchburyi
Bassina (Callanaitis) yatei

Tawera spissa
Dosinia (Asa) lambata
Dosinia (Austrodosinia) anus
Dosinia (Phacosoma) subrosea
Notocallista (Striacallista) multistriata
Ruditapes largillierii
Panopea zelandica
Offadesma angasi
Myadors boltoni
Myadora striata

GASTROPODA

Cellana radians
Cellana stellifera
Notoacmea elongata
Notoacmea helmi [scapha form]
Haliotis iris
Tugali suteri suteri
Cantharidus opalus
Diloma subrostrata
Melagraphia aethiops
Micrelenchus tenebrosus
Trochus tiaratus
Trochus viridis
Antisolarium egenum
Zethalia zelandica
Calliostoma tigris [damaged]
Calliostoma punctulatum
Calliostoma selectum
Calliostoma waikanae
Cookia sulcata
Turbo smaragdus
Zeacumantus lutulentus
Zemelanopsis trifasciata
Maoricolpus roseus roseus
Serpulorbis zelandicus
Pellicaria vermis vermis
Struthiolaria papulosa
Sigapatella novaezelandiae
Sigapatella tenuis
Crepidula monoxyla
 [= *Maoricrypta sodalis* Marshall, 2003]
Globisium drewi
Epitonium (Acutiscala) minora

Epitonium (Hyaloscala) jukesianum
Janthina exigua
Janthina janthina
Poirieria zelandica
Xymene ambiguus
Xymene plebeius
Dicathais orbita
Haustrum haustorium
Aeneator attenuatus
Austrofuscus chathamensis
Austrofuscus glans
Cominella (Cominella) adspersa
Cominella (Cominella) maculosa
Cominella (Josepha) glandiformis
Penion sulcatus
Taron dubius
Alcithoe arabica
Alcithoe fusus hedleyi
Amalda (Baryspira) australis
Amalda (Baryspira) depressa
Amalda (Baryspira) mucronata
Amalda (Gracilispira) novaezelandiae
Phenatoma rosea
Pervicacia tristis
Philine angasi
Haminoea zelandiae
Amphibola crenata
Marinula filholi
Ophiocardelus costellaris



WAIKAWA BEACH

by Kris Woods

In April, Roger and I visited Waikawa Beach for the first time. This beach settlement is about an hour and a quarter's drive north of Wellington just off State Highway 1. I had often admired shells gathered from this beach and had listened to club members extolling its virtues.

On approaching the bridge over the Waikawa Stream, a duck hunter strode in front of us (this was the first day of the duck hunting season but fortunately his objective would be in the air rather than on the beach!). As we crossed the footbridge, something white caught my eye along the stream bank. I seized the binoculars out of my backpack and watched a tall white bird walk slowly towards the water, its head bent low, its bright yellow bill sweeping from side to side across the sand. To our utter amazement, I was looking at a breathtakingly beautiful and regal white heron (kotuku). Neither of us had seen this heron before and it had us spell bound for a considerable time. Like slow motion, it rose slowly and gracefully into the air with its magnificent wings spread wide.

This trip from then on could surely not reveal a greater treasure and if I did not find one shell, it would not have mattered. Down on the beach there was nothing to equal the white heron. However, the beach itself was beautiful and lived up to its reputation. There was an abundance of large *Spisula (Crassula) aequilatera* and a handful of *Paphies ventricosa*. I collected a couple of *Xymene ambiguus* and one sharply pointed *Calliostoma (Maurea) waikanae*. Sprinkled here and there were *Semicassis pyrum*, *Austrofuscus glans* and the occasional (but broken) *Alcithoe arabica*.

Despite there not being a great variety of shells, we remained impressed with the beauty of the beach and could see why it is such a popular spot. The walk back along the beach to the car found us lifting our gaze from the sand as we discovered more bird life. At the water's edge were variable oystercatchers, pied stilts and towards the dunes were a pair of white-faced herons. Sadly, we did not see the white heron again but having had such a magical experience, I have no doubt it won't be long before we return to Waikawa Beach.

✂ ✂ ✂

OVER THE EDITOR'S DESK

Here's an interesting paper that came my way recently – whether you like toheroa for gourmet reasons or just as a rather intriguing, somewhat-threatened bivalve of our sandy beaches, you might want to check it out ...

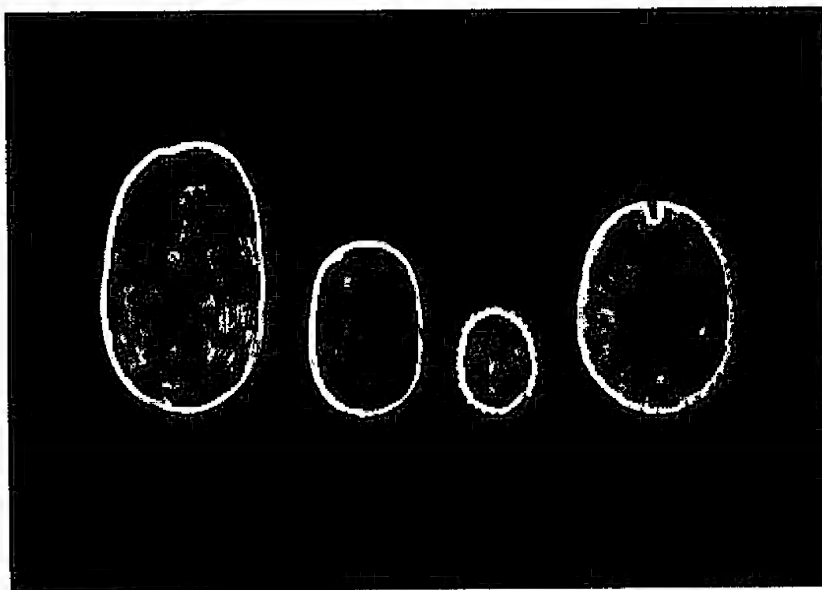
Akroyd, Jo-Anne, Walshe, Kim A.R., & Millar, Russell B. September 2002: Abundance, distribution, and size structure of toheroa (*Paphies ventricosa*) at Ripiro Beach, Dargaville, Northland, New Zealand. *New Zealand Journal of Marine and Freshwater Research* 36: 547-553.

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## FOUR LIMPETS – OWHIRO BAY, WELLINGTON

By Selwyn Bracegirdle

One of the rewarding aspects of being a relatively new shell collector is the frequency with which you can make new discoveries. This has very much been the case with four of the many species of limpets found at Owhiro Bay.



Left to right: *Tugali elegans*, *T. s. suteri*, *Montfortula chathamensis*, *Emarginula striatula*

The first of these was *Tugali s. suteri* (Theile, 1916). While it may be numerous, it can be easily overlooked because of its plainness. I hadn't noticed it at first, and its smallish size didn't help. I have seen many hundreds over the last year washed up empty. As you start to collect them and look more closely, you notice the intricate pattern of radial and concentric lines covering the outer surface making the good specimens particularly attractive.

Next is *Emarginula striatula* Quoy & Gaimard, 1834. While overall a larger size than *Tugali s. suteri*, it is less common here. One specimen, among the approximately 50 found, measured 24mm. The colour of the specimens varied from almost white to others with radial streaks of dark green. Again, some of the good specimens have a very attractive texture to them.

*Montfortula chathamensis* Finlay, 1928 is rare along this coast but I have managed to find 3 specimens. It is a little smaller and rounder than *Tugali s. suteri* and has radial ribs with a more prominent profile. There is a notable groove inside this limpet which is deeper at the anterior edge than near the apex – a beautiful little shell.

And last is *Tugali elegans* (Gray, 1843). The Club's records do not show this species as having been found along Wellington's south coast. I have been fortunate in finding 4 empty shells over the past year at Owhiro Bay. It was with pleasure that I was able to pass a specimen to Te Papa to fill a gap in the collection. While *Tugali elegans* may be significantly larger than *T. s. suteri*, it is otherwise difficult to differentiate the two.

It will be a challenge now to locate exactly where these limpets are living.

# THE SMILES AND TRIALS OF SHELL COLLECTING

By Zvi Orlin

I have often been asked how and why I started collecting shells. Well, I have always been a lover of nature, observing the flora and fauna and natural phenomena of my surroundings. I started collecting snakes and other reptiles, then added bird-watching to my activities, and after studying vulcanology, started seeking out volcanoes. My favourite pastime is hiking, which opens up new vistas and avenues of interest. During the course of these hikes, which since I went on pension, has been with two close friends, we walked the shores of our country during the rainy season, when the surrounding mountains were rather muddy. Along the beaches after storms, I noticed a large variety of species of molluscs. The fascinating forms and colors of the shells, were a great joy to me: they seemed to be the epitome of the ability in nature, to enable the creation and development of variable and beautiful living creatures. After collecting them, I of course tried my hand at identification. This set me on the road to shell collecting. I started checking my classifications, with the help of available literature on Israeli shells, and with the local universities, which have accumulated impressive collections, and whose staff have the expertise to assist me in my determinations.

I have only been collecting for a decade, but feel it is now time to look back and assess my experience. I suppose that for serious study, and the accumulation of knowledge, one can always be assisted by a mentor, and in my case it was Henk Mienis, the Curator of the National Mollusc Collection of the Hebrew University in Jerusalem. He gave me great encouragement, and was always on hand to check my determinations, and assist in all possible ways to further my advancement.

I consider the greatest joys of shell collecting are searching the beaches, wading in the shallows, snorkelling and scuba diving, all of which help us observe, find and familiarise ourselves with habitats and their residents, and then classifying the species found, and learning of their distribution. Each of us derives his pleasures differently. At first our joys are from finding specimens new to our collections; then we try to improve the standard, by finding finer specimens, more beautiful or larger. One of our greatest joys is finding species that have not been found previously in our region. I once found a specimen, on our Mediterranean shore, of an Indo-Pacific *Strombus*. At first it was thought to be a Lessepsian migrant, (from the Red Sea to the Mediterranean), but as no other specimen has since been found, this seems unlikely. Probably it was only a vagrant or occasional, maybe just brought by man, perhaps in his boats or ships? The ultimate joy is of course finding a species new to science, but few of us achieve this goal. The easiest way of doing so is by collecting beach or substrate grit, in which many new microshells are found, as they have been insufficiently studied till recently.

When we have found most of the accessible species, in our respective areas, then we look further afield. We can then either exchange shells with collectors of other regions, or travel overseas and search ourselves. I find both venues bring me a wealth of excitement and joy! We suddenly discover that a family or genus, that we thought we know, has many additional species in other regions, and new fields of information and knowledge are opened up to us. Some contacts we make in exchanges, are what I call gems: they are always reliable in careful packing and prompt dispatch, and if they consider some of our determinations of species questionable, they offer alternative suggestions, which we can check. Others are not so obliging and return the shells, which is a blow to our pride. Occasionally we receive in exchange species that were not requested, but these cases are rare.

My most memorable meeting was with Arie Jooste, from Aston Bay in the Eastern Cape, South Africa (I visited him at the instigation of the well known conchologist, Victor Millard from Cape Town). He and his son have a boat, and they dredge and scuba dive, and are renowned for the rare shells they have found, and have a very fine collection. Despite many medical problems, he was a smiling, friendly and generous collector, who enjoyed giving, and also helping people. He gave me a few dozen uncommon and rare shells, which I was lacking in my collection, although I told him that I had nothing at the level of their valuable specimens, to offer in exchange. I sent him some specimens from my collection, and a book, but I still feel indebted to him till this day. What a fine and rare man!

I have lately also made contact with several other collectors, who only collect local shells from their country, hence were not interested in exchanging shells; however, they offered to send me duplicates of dozens of shells from their collections, without requesting anything in return. As one colleague expressed it: other collectors have been kind to me in the past, so what goes around, comes around! Such wonderful people are from New Zealand, Australia and also additional collectors from South Africa.

Like in all ventures, we are also confronted by trials, and the major one in our collecting is, of course, the correct identification of species. To accumulate sufficient literature to assist us is very expensive, and only in the course of time can we acquire the basic books needed. Some of the books and other literature we use, are outdated, with the resulting incorrect classifications. New Zealand has shown a classical example of how to deal with this problem: the popular book used there for many decades was later updated, and now a 'Checklist' has been published of all the New Zealand molluscs. Hopefully this procedure will be followed in other countries, as all the monographs published, on certain families or groups of molluscs, are not always readily available to collectors. We need recourse to the university libraries, and sometimes to the internet, to assist us.

With the growth of our collections, we are faced by another trial: how to keep track of all the specimens in our collection. The only effective solution is computerization. To many of us older people, this is one of the greatest challenges: we have to become reasonably proficient in operating a computer. If successful, this is perhaps the highest stage we can achieve, and it enables us to draw information rapidly: lists of each country or region, and note which species are new to them, and check the data on any desired species.

An additional trial is how to get assistance in checking our classifications. Sometimes, when we approach professional scientists active in Malacology, we receive no response. This is very frustrating! We must remember, that for each professional there are probably dozens of amateurs, who can add invaluable information. No one has a monopoly on knowledge, and although most monographs published add micro-information on our species, we also need to sum up the statistical information available. Checklists of various regions are useful macro-data, even if prepared by amateurs, and can stimulate research. Perhaps the best example of what can be achieved by amateur collectors, outside the circle of professional scientists, is that of Alfred Russell Wallace in the 19<sup>th</sup> Century, who accumulated outstanding collections of fauna from Brazil and the islands of S.E. Asia, and whose treatise on Natural Selection helped Darwin in his formulation of the Origin of Species.

However, I am certainly not complaining about our lot, as the enhancement of knowledge should be our ultimate goal. During a decade of collecting, I have amassed specimens of a few thousand species, from various corners of the globe, mostly self-collected or from exchange, and have

benefited from the help and kindness of many shell collectors. Recently I have started collecting beach grit, and with the help of a colleague in The Netherlands, we have managed to find many microshell species not formerly found on our shores. Mine is a reference collection, to assist me in the identification of species; some of my specimens are far from perfect, which many collectors would perhaps discard, but I judge them by whether they have sufficient characteristics to identify the species. I have also managed to computerize my collection. Together with another colleague from Holland, we have made our modest contribution by publishing a Checklist of Molluscs of the Red Sea.

One subject which I consider to have been badly neglected is 'endemism'. Unfortunately, in very few publications is it mentioned, but hopefully more information will be forthcoming in the near future, to increase our knowledge of biodiversity on our planet.

I cannot think of any hobby, from which more pleasure and interest can be derived, so we really are very lucky to have joined the ranks of the "Shellers", providing we observe the requirements of the habitats in which we operate, and do not deplete their treasures unnecessarily. Trusting that such cooperation will become the keyword of our future relations, and enhance the wealth and joy of shell collecting, and elicit more smiles from both the amateur and professional malacologist.

#### ANOTHER PATRONYMIC COMMEMORATIVE

A particularly appropriate new generic name commemorating our late patron, Dr R.K. Dell, was not included in the article on names of New Zealand molluscs that had been proposed to commemorate him.<sup>1</sup> It had not been intended to include names for genera or species known only from *beyond* New Zealand but this one surely deserved to be noted. Dr Alan Beu has kindly told me that a new genus, *Dickdellia*, had been proposed in 1996 by Anders Warén and Stefan Hain in the description of a new family of Littorinoidea, the Zeratulidae (which contains several New Zealand species – and which members should certainly consult for more information about them).<sup>2</sup>

*Dickdellia* was founded on the species *Corneolitorina labioflexa* (Dell, 1990), collected at *Ellanin* Station 410, 61° 18'S, 56° 09'W, off Elephant Island, Ross Sea, Antarctica.<sup>3</sup> The holotype is in the National Museum of Natural History, Smithsonian Institution, Washington, DC, and one of the paratypes is in the Museum of New Zealand Te Papa Tongarewa. A detailed description of the anatomy, both external and internal, of *Dickdellia labioflexa* (Dell, 1990) was given by the authors of the new genus, with its key features and discussion of its relationships.

<sup>1</sup> DAWSON, E. 2002: New Zealand molluscan species names commemorating Dr R.K. Dell: what they were & what's happened to them. *Cookia, Journal of the Wellington Shell Club New Zealand* 13: 9-17.

<sup>2</sup> WARÉN, A.; HAIN, S. 1996: Description of Zeratulidae fam. Nov. (Littorinoidea), with comments on an Antarctic littorinid gastropod. *The Veliger* 39 (4): 277-334, figs 1-35.

<sup>3</sup> DELL, R.K. 1990: Antarctic Mollusca. *Bulletin of the Royal Society of New Zealand* 27: 1-311, figs 1-482.



# OHIWA AND OPAPE BEACHES, BAY OF PLENTY

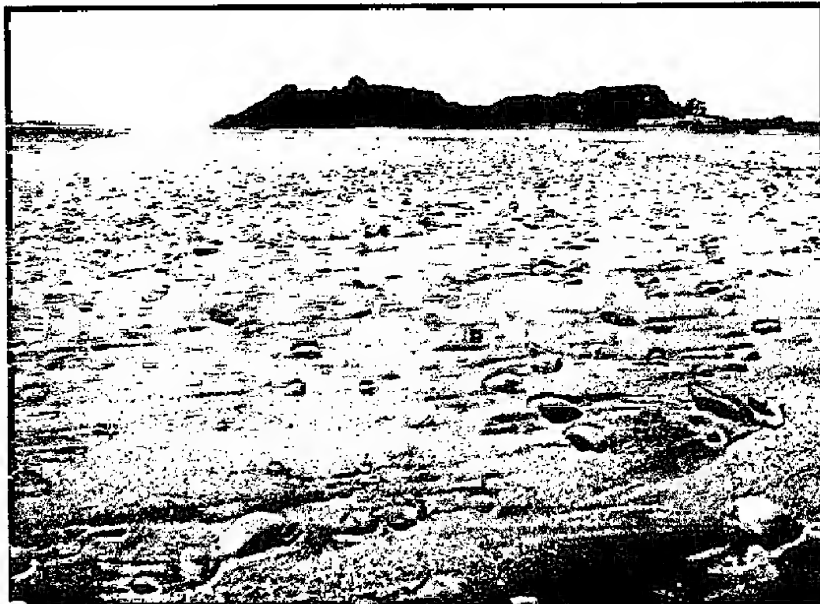
By Selwyn Bracegirdle

## OHIWA (BRYAN'S) BEACH

We have enjoyed many holidays over the last several years on the beach near Ohiwa, at what the locals call Bryan's Beach, with a typical outlook facing north to White Island. It is a beach separated from Ohope by the Ohiwa Harbour and from Waiotahi Beach by the Waiotahi River, which makes for a more peaceful holiday.

In gathering shells during that time we developed an interest in shell collecting which was the inspiration to join the Wellington Shell Club at the beginning of 2002.

In January 2003 we were there again for some R&R.



Bryan's Beach has many bivalves and occasionally good gastropods. The highlight for us being a lovely dead specimen of *Poirieria zelandica* - height 50mm - washed up near low tide - it is typical of the shallow water specimens with shorter spines. Other finds have included *Alcithoe*



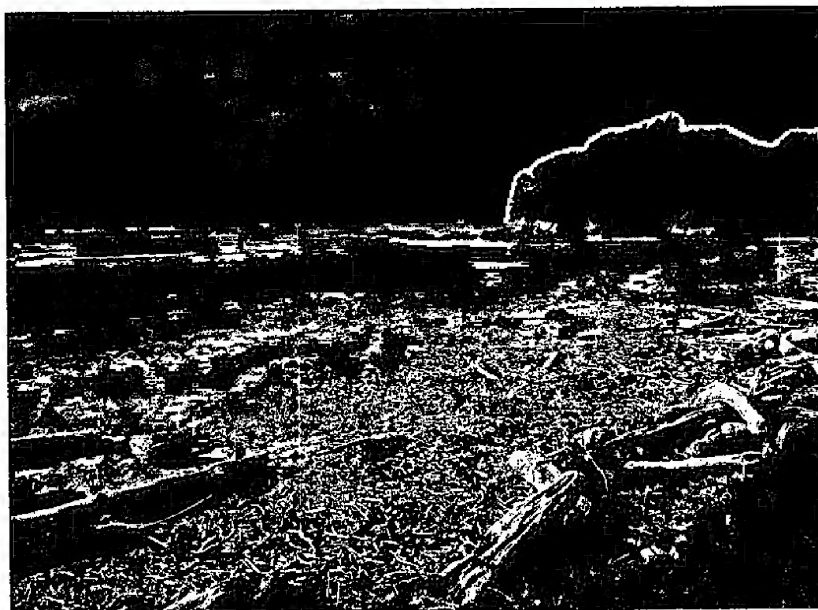
*arabica*, *Semicassis pyrum*, *Calliostoma pellucidum*, *Maoricolpus roseus*, *Zeacumantus lutulentus*, *Trochus viridus*, *Trochus tiaratus*, *Amalda australis*, *Amalda depressa*, *Cominella glandiformis*, *Struthiolaria papulosa*, *Cookia sulcata*, *Trochus viridis*, *Cominella adpersa*, *Amphibola crenata*, *Perna canaliculus*, *Modiolarca impacta*, *Crassostrea gigas*, *Pecten novaezelandiae*, *Talochlamys zelandiae*, *Divalucina cumingi*, *Barnea similis*, *Myadora striata*, *Panopea zelandica*, *Dosinia anus*, *Spisula aequilatera*, *Resania lanceolata*, *Gari (Psammobia) convexa* and *Ruditapes largillierti*.

*Poirieria zelandica*

## OPAPE BEACH

But we had heard Opaape Beach to the east of Opotiki was worth a look - so we did. We found this location had such an interesting variety of shells we made four visits over the period of a week.

The rocks and rock pools at the eastern end of the beach were smothered in shell pieces indicating the volume of shell fish in the area. Around the headland were miniature bays covered in crushed shell pieces. The shells on the beach itself suffered from numerous vehicles depositing boats into the sea which meant a few interesting finds were of the crushed variety. But the eastern end of the beach did offer the best washups. As the beach curved away to the west the shells became more sparse and so too the rocks.



We found *Poirieria zelandica*, *Casmaria ponderosa perryi*, *Pellicaria vermis flemingi*, *Calliostoma tigris*, *Calliostoma selectum*, *Semicassis pyrum*, *Cabestana spengleri*, *Alcihoë arabica*, *Cookia sulcata*, *Zeacumantus lutulentus*, *Cominella adspersa*, *Dicathais orbita*, *Penion sulcatus*, and even part of a *Tonna cerevisina*. Bivalves included *Pecten novaezelandiae* and *Talochlamys zelandiae*. These were all washups found empty.

*Casmaria ponderosa perryi*

What else might washup there? We will have to go again to see.



## SHOW AND TELL

By Jill Burnet

Some of us in the Shell Club are, for various reasons, stay-at-home hobbits, but luckily there are a number of members who can and do go off adventuring to far-flung beaches, and, what's more, they bring back their treasures to show us at meetings. And even if we think, quite privately of course, that some lucky people have far too many undeserved holidays, we all enjoy seeing the shells that they have found.

At the first three meetings of 2003, several members brought along interesting shells. The January meeting was held at Pat Lakeman's home, and Pat had on display a tray of shells collected on a recent trip to Northland. They included:

Whangaruru Harbour - *Morula chāidea* (live); Bland Bay - *Muricopsis octopgonus*, *Phenatoma rosea*, *Cirsotrema zeleborei*, *Notocochlis migratoria*; Taupiri Bay - *Serratina mustellina*, *Pictabalcis articulata*, *Haliotis virginea crispata*; Brampton Shoals - *Muricopsis maria*.

At the February meeting, we had a message from Doreen Burr, telling us she had been on a scallop dredging trip in Golden Bay on Waitangi Day. Unfortunately the mesh on scallop dredges is not fine enough to trap small shells, but she did obtain: *Alcithoe arabica* (live), *Amalda mucronata* (live), *Austrofusus glans* (live), *Poirieria zelandica*, *Talochlamys zelandiae* (live), *Dosina crebra*, *Maoricolpus roseus*, *Struthiolaria papulosa* (live), *Chione stutchburyi*, and *Pecten novaezealandiae* – the nicest one being undersized and had to be thrown back.

Several members had visited Waikanae Beach, on the Kapiti coast, north of Wellington, and found this a happy hunting ground. Helen MacFarlane, Trix Hennessy, and Selwyn Bracegirdle have seen there: *Calliostoma selectum*, *Limatula maoria*, *Semicassis pyrum*, *Alcithoe arabica*, and a large washup of juvenile *Paphies ventricosa*.

There was a great display of shells spread out in Don Watson's shed at the March meeting. Digby Standish had been dredging at Picton, and brought back: *Poirieria zelandica*, *Alcithoe arabica*, *Talochlamys zelandiae*, *Pratulium pulchellum*, *Gari stangeri*, *Tawera spissa*, *Cardita aoteana*, *Penion sulcatus*, *Penion cuvierianus*, as well as the brachiopods *Neothyris lenticularis* and *Terebratella sanguinea*. Harry Tibble had some magnificent shells, trawled off Mahia in 35 fathoms: *Tonna cerevisina*, *Charonia lampas*, *Penion sulcatus*, *Fusitriton magellanicus laudandus*.

At all three meetings, Selwyn Bracegirdle had shells from Owhiro Bay, on the south coast of Wellington, which seems to be one of his favourite collecting spots. He visits there regularly, and has found: *Montfortula chathamensis*, *Epitonium jukesianum*, *Myllita stowei*, *Tugali elegans*, *Tugali suteri suteri*, and *Emarginula striata*.

The April meeting was actually held at the beginning of May, and was a visit to the Institute of Geological and Nuclear Sciences, so there was no 'Show and Tell' session, but I'm sure that our wanderers will bring back plenty of interesting shells to future meetings.

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# KAIKOURA AND CAPE CAMPBELL TRIP MARCH 2003

By Doreen Burr

Our party consisted of Carolyn Krebs, Doreen & Ivan Burr, Jenny Raven, Jim Harding, & Pat Lakeman, who have all helped in the compilation of the following diary of our trip.

## Monday 17<sup>th</sup> March

We (Ivan and Doreen) planned to check several beaches on our way to Kaikoura. The Port Underwood area and Marfell's Beach we left to the others, and the first place we tried was Ward Beach. The road followed the creek towards the sea, and our first view of the beach was impressive – jagged rocky promontories with a steep shingle beach between, the estuary of the creek in the foreground, blue sea with white breakers, blue sky with white clouds. A pretty spot! I walked along the tidelines of three little bays and found only three shell fragments (*Haliotis* and *Lepsithais*) and a *Siphonaria* with seaweed attached. One rock, alone in the middle of a bay sported five brave limpets, *Cellana denticulata*, *C. ornata*, and *Siphonaria*. They were small and gnarled and deserved to be left in peace in that cruel environment! Other rocks were bare. Yes, a pretty spot - for a picnic. By this time the sun had gone behind the increasing cloud and the wind had strengthened. Time to move on. Further along the main road we took a track which led over dunes to the shingly beach near a river mouth. It was COLD and windy and there was nothing there for a shell collector!

Rain began to fall as we drove on. We had left behind the parched Marlborough hills that needed rain so much. We had also left behind the beautiful, sunny Nelson morning! We drove on through misty showers. No, thank you Ivan, I did NOT wish to leave the warmth of the vehicle to walk on any more unpromising shingly beaches. Most of the beaches along this coast are shingly. Between the showers, we enjoyed observing the seals at Ohau Point. There were a hundred or more resting on the boulders, with others perched on the rocks, while the youngsters were enjoying a "spa bath" as the waves broke over the pools.

Then it was on to Kaikoura and time to see the shops and be tourists. There were several shops, showcases for many talented people, which made interesting viewing. At the main Kaikoura wharf (the 'old wharf'), where paua pearls are cultivated and crayfish sold (other fish too, of course), we met Jacquie and her friend who were catching fish, tiny fish, from the wharf (on barbless hooks) for her aquarium (Eco World in Hokitika).

## Tuesday 18<sup>th</sup>

The weather was perfect holiday weather and would remain so for the rest of the week. Ivan and I visited Fyffe House and the Museum. We were disappointed to find that Bev Elliott was away and that we were not able to meet her - but we viewed her display, in the museum, of shells from this area. We drove to South Bay where we watched the activity at the wharf as the various buses and boats ferried tourists to see albatrosses, whales, dolphins, seals, or sharks. We took a brief look on the beach before collecting some delicious silver beet for dinner. It was growing wild just above the high tide mark – ready salted!

Meanwhile, Jim had driven over from Nelson and picked up the others. Here's his account of their exploits ...

"I left at 7.30 am to be in time to pick up Jenny and Carolyn at Blenheim Airport as they were due to arrive from Wellington at about 9.00 am. After they arrived, and all the luggage was in the car, we decided to go to Rarangi and north over the hill to a delightful little bay called White's Bay, a really nice camping spot. The bay is only about 700-800 metres in length with a nice rock platform and archway at the southern end, and, at

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"From time to time seals on the rocks were pointed out, not too far from the road; however, as I was driving and my focus was on the road ahead, I could only glimpse the odd one. When we arrived we looked for the motel that we were to stay at, and we found it just through the main shopping centre on the way to the 'old wharf'. Ivan and Doreen were there to welcome us ... with a large supply of silver beet!"

### Wednesday and Thursday 19<sup>th</sup> & 20<sup>th</sup>

Low tides were 11.11 am (- 0.76) and 12.05 pm (-0.8) respectively, which were ideal for spending most of the day out "hunting". We spent the two days scouring the end of the Kaikoura peninsula - on Wednesday from the south and on Thursday from the north. We shared the rocks with seals and tourists - both were there in abundance, but there was plenty of room for all.

On the smooth mudstone platforms, the limpets were HUGE, although, as usual, the smaller ones were more attractive. *Cellana flava*, the orange limpet, we marvelled at of course as we do not see them at home. Here the small siphon limpets also were abundant and we collected plenty of empty ones from the channels formed by cracks in the rocky platform. Also abundant in these channels were the little horn shells (*Zeacumantus subcarinatus*), millions of them, alive and in drifts of old shells. Both the little periwinkles (*Nodilittorina*) - the brown one and the blue and white striped one were common in many patches.

There were also very large top shells (*Melagraphia aethiops*) and cat's eyes (*Turbo smaragda*), and many of these were surprisingly clean with very little wear considering the exposed coast on which they were living. The most common bivalve was *Protothaca crassicosta*, and I saw a few live ones protruding from the sand between rocks. Some were prettily marked with orange and blue colouring. A few empty *Pseudarcopagia disculus* (large with brighter yellow patches) were collected and I found only one cockle (*Austrovenus stutchburyi*) and two *Ruditapes largillierti*. As we walked lower down we found blue mussels, also the dark rock shell (*Haustrum*

<sup>1</sup> See also SUTHERLAND, B. 1982: Marfell Beach. *Cookia* 5 (1): 13-14; MARSTON, O.J. 2000: Marfell's Beach: Clifford Bay, Marlborough. *Cookia* 11: 3-12.

*haustorium*) and oyster borers (*Lepsiella scobina*), but not in great numbers. I saw one of the related white *Lepsithais lacunosus* in a rock crevice. Much more common were the whelks *Cominella glandiformis* (black ones) and *C. maculosa*. I found a number of very tiny black 'snails' on seaweed in an upper tide level pool. Were they juvenile *C. glandiformis* of which there were many nearby? I took some home and with the help of magnification decided that they were *Pisinna zosterophila*.

On each point were the seals, some warning us off their territory and others relaxing as best they could while the continuing stream of tourists observed and took photos. We saw the "Swim with the Seals" group in action, everyone enjoying the fun. Deep pools were very clear and sported many seaweeds of varying shapes and colours and among them small fish, shrimps, anemones, flatworms, crabs (including some most unusual ones - Jim showed us one that looked dead - like a 'skeleton' - then its legs unfolded and ... !). These interesting creatures distracted us as we hunted, but to no avail, for the elusive *Montfortula chathamensis* that Jenny assured us was to be found in the vicinity. However, Jim was successful in finding an empty shell - so it's on our list!

Some of the limestone rock was not to be trusted and was liable to crumble beneath our feet. I was kneeling, looking into a particularly beautiful pool, near low tide, when the weight of my knees proved too much! The edge gave way and I went head first into the water and seaweed! With only my pride damaged, I staggered up and looked around - good - the others were busy and no-one was pointing a camera ...

The little white *Buccinulum vittatum* (*kaikouraense*) we found beneath stones - it being quite plentiful in places. There were many colourful chitons including one with tufts down both sides. I've never really studied chitons, but the beauty of these ones has inspired me to desire more knowledge of them. In the low tide area (we'd timed our trip for the very low Spring tides) we saw huge black shield slugs (*Scutus breviculus*), the largest I've ever seen. Some of the many overseas tourists who were walking around the coast came over to satisfy their curiosity and were most impressed by what we were able to show them. These English ladies had never seen creatures like the shield slugs, nor the large red and white striped sea anemones, camouflage crabs, or wandering sea anemones, let alone touched them! They continued their journey happily with no complaints about their wet feet! Live *Buccinulum pallidum* eluded us, but there were many tiny paua beneath the low tide stones and some very large ones in good condition were found washed up, particularly *Haliotis australis*.

Jenny and Jim waded out to Seal Island. Myself? I was waylaid by the seals and ... everything ... and, besides, my legs are shorter than most and the promised thigh-deep water sounded daunting! The 'brave' ones reported an abundance of large limpets on Seal Island, including *Cellana radians*, which was not nearly as common as the others. My much longer-legged 'Better Half' returned too late to cross the channel - he had collected Carolyn, who had spent the morning whale watching and has added an account of that trip to the end of this article.

We returned to our motel each day tired but happy, with a few finds to clean, label and show. But Ivan was still feeling active and went fishing from the wharf. On the Wednesday he returned after a short time with five fish for tea and he had had the locals guessing at his secret bait (*Turbo smaragda*!). We even collected some more silver beet to go with the delicious fish! ("I only wish I'd had a decent filleting knife" said Doreen! The motel equipment left much to be desired!) On the Thursday, Ivan caught a couple of spotties to take home for the cat while we others had another look at the shops and then we all went out for a delightful meal together at a local restaurant as it was our final night together.

The following list was compiled by Doreen and Jim, relying on their memories of what they had seen during the two days in Kaikoura. Some species were collected, but most were not. Some specimens were in poor condition, and, occasionally, only one example was seen. This list includes by no means all the species that can be found at Kaikoura. Beverely Elliot has written articles in *Poirieria* about collecting at Kaikoura,<sup>1</sup> including a very comprehensive species list. The numbers preceding the species names refer to the relevant page in "Powell" where further details can be found.

## POLYPLACOPHORA

24 *Eudoxochiton nobilis*

## BIVALVIA

372 *Mytilus galloprovincialis*  
375 *Atrina zelandica*  
418 *Pseudarcopagia disculus*  
426 *Austrovenus stutchburyi*  
426 *Ruditapes largillierii*

372 *Aulacomya atra maoriana*  
414 *Spisula aequilatera*  
427 *Dosina zelandica*  
425 *Protothaca crassicosta*

## GASTROPODA

43 *Cellana denticulata*  
43 *Cellana ornata*  
45 *Radiacmea inconspicua*  
36 *Haliotis iris*  
37 *Haliotis virginea virginea*  
40 *Scutus breviculus*  
55 *Cantharidus purpureus*  
56 *Micrelenchus dilatatus*  
52 *Herpetopoma bella*  
67 *Cookia sulcata*  
131 *Zeacumantus subcarinatus*  
128 *Serpulorbis zelandicus*  
87 *Nodilittorina cincta*  
106 *Merelina* sp.  
166 *Argobuccinum pustulosum tumidum*  
*Xymene* sp.  
180 *Lepsiella scobina*  
198 *Buccinulum pallidum*  
(and the white 'kaikouraense' form)  
192 *Cominella maculosa*  
292 *Siphonaria australis*

43 *Cellana flava*  
43 *Cellana radians*  
46 *Patelloida corticata*  
37 *Haliotis australis*  
38 *Montfortula chathamensis*  
55 *Cantharidus opalus*  
53 *Melagraphia aethiops*  
58 *Thoristella chathamensis*  
62 *Calliostoma punctulatum*  
66 *Turbo smaragdus*  
125 *Maoricolpus roseus*  
87 *Nodilittorina antipodum*  
88 *Risellopsis varia*  
106 *Rissoina chathamensis*  
73 *Xymene traversi*  
180 *Haustrum haustorium*  
180 *Lepsithais lacunosus*  
199 *Buccinulum vittatum*  
193 *Cominella glandiformis*  
200 *Penion sulcatus*  
294 *Marinula filholi*

## Friday 21<sup>st</sup> On to Cape Campbell

An earlier start for Jenny and Jim, to meet Pat at Blenheim Airport before reuniting with us (Carolyn, Ivan and Doreen) on the Marfell's road. We had obtained permission to drive across

<sup>1</sup> ELLIOTT, B. 1978a: Notes on Kaikoura limpets. *Poirieria* 9 (4): 60-64; 1978b: Notes on Kaikoura chitons. *Poirieria* 9 (5): 83-85; 1979: Winter storms at Kaikoura. *Poirieria* 10 (1): 3-8; 1980: Notes from Kaikoura. *Poirieria* 10 (6): 105-108; 1983: Notes from Kaikoura. *Poirieria* 12 (1): 1-3 [includes notes on Wellington Shell Club's Queen's Birthday Weekend visit 5-6 June 1982 to Kaikoura and Marfell's Beach - see also RAVEN, J. 1982: A collecting trip to Kaikoura. *Cookia* 5 (2): 27-28].

private property to reach Cape Campbell. Jim had been there previously, on foot along from Marfell's Beach. It's a long walk on shingle so to drive there was a real treat and we were able to arrive fresh and spend approximately five hours combing the beach and the rocky point.

"Finds" along the high tide washup were much the same as at Marfell's Beach but there were more undamaged shells - rather like Marfell's Beach used to be. We think that the increasing use of the camping facilities at Marfell's, by travellers in campervans and the like, has meant that more beachcombers have been picking up the 'bigger and more beautiful' shells. One caravan dweller last year did show us with pride a beautiful *Argonauta nodosa* that he'd found that day. Not to be outdone, last February Ivan found his *Argonauta* there!

The land at the edge of the beach is being eroded, with large chunks collapsing and disintegrating to free the shells that had been trapped for years. For this reason, many of the shells picked up near the high tide level were very old ones.

Pat collected a number of *Haliotis virginea* washed up - she revealed that her secret was to look for their distinctive brown backs lying amongst the multitude of other shells. The problem is training oneself to ignore that 'multitude of other shells'! The high tide washup included also:

#### BIVALVIA

372 *Mytilus galloprovincialis*  
414 *Spisula aequilatera*  
427 *Dosina zelandica*  
429 *Barnea similis*

372 *Aulacomya atra maoriana*  
418 *Pseudacarpagia disculus*  
425 *Irus elegans*

#### GASTROPODA

43 *Cellana denticulata*  
43 *Cellana flava*  
43 *Cellana radians*  
36 *Haliotis iris*  
37 *Haliotis australis*  
37 *Haliotis virginea*  
55 *Cantharidus opalus*  
55 *Cantharidus purpureus*  
66 *Modelia granosa*  
58 *Trochus viridis*

67 *Cookia sulcata*  
66 *Turbo smaragdus*  
166 *Argobuccinum pustulosum tumidum*  
(many with periostracum on them)  
164 *Cabestana spengleri*  
199 *Buccinulum vittatum*  
200 *Penion sulcatus*

A mid-beach washup of red/brown seaweed yielded *Barnea similis*, *Irus elegans*, and ... Jim's *Calliostoma pellucidum*! - a beauty.

At the point, down on the mudstone rock platform, we followed the tide, out past the large limpets, the rock pools and the few solid rocks pointing to the sky. Only the bravest and most tenacious of animals were living there but, at the water's edge, we looked beneath the boulders and found "life"! One large flattish boulder was home to easily one hundred and thirty paua! (*Haliotis iris*) - ask Ivan - he counted them! We found the small, white *Buccinulum vittatum* (*kaikouraense* form) here too and one stone yielded a number of the very tiny white *Rissoina chathamensis*.

Others noted were:

- 87 *Nodilittorina cincta*
- 180 *Haustrum haustorium*
- 180 *Lepsiella scobina*
- 199 *Buccinulum vittatum vittatum* (buff form too)

We were tiring now and the tide was chasing us in but we were loth to give up. Just one more stone to turn; another look for any *Cabestana spengleri* or *Haliotis virginea* along the tidemark. Was there another *Calliostoma pellucidum* hiding in the seaweed washup? Refreshments were needed. Ivan and I said our farewells. It's a long ride over those hills. We left Jim to take Carolyn, Jenny, and Pat to their motel in Blenheim before he, too, would journey home to Nelson. The scenery on the farm property over which we had been fortunate to have had access was magnificent. Our final day with the party had been most enjoyable; a slight hitch when we encountered a locked gate but we did *not* have to spend the night there! The family was at home and the girls kindly let us out. We had been in another world.

#### Saturday 22<sup>nd</sup>

After a ladies' night "in" and delivering Pat to the airport in the morning, we (Jenny and Carolyn) decided to spend a full day at Marfell's beach.<sup>1</sup> Although the weather in Blenheim was very hot we were very surprised to find a very strong sea running – so much for the promised low tide! There were, however, the usual shells to be found and some recent washups. On the main beach some large double *Irus elegans* and a double *Panopea smithae* were found. With careful hunting among the washed up weed, a few double large angel wings (*Barnea similis*) came to light, also *Irus reflexus* and an *Austrofusus glans* (*chathamensis* form) with the animal still inside.

At Mussel Point some good *Haliotis virginea* were found washed up and two shells not noted on previous trips were a *Gari convexa* and *Bassina yatei* in average condition. Despite the rough seas Jenny managed to struggle onto the low tide rocks at the Point. A few small *Lepsithais lacunosus* and two *Calliostoma punctulatum* were noted on the mussels at the Point (mainly *Mytilus galloprovincialis*) but a first for Jenny was the finding of a live *Paratrophon patens* in very good condition also among the mussels. Although the Cape Campbell lighthouse could be sighted in the distance, one major difference between Marfell's and Cape Campbell was that no mussels had been seen on the Cape Campbell rocks and this could well explain some of the faunal differences between the two areas.

#### Sunday 23<sup>rd</sup>

Jenny and Carolyn drove through to Picton. Some *Argonauta nodosa* shells were found for sale in one of the shops but with candles stuck in wax inside them! Noting Jenny's close inspection to see if she could get the candles out without breaking the nautilus, a shop assistant quickly advised that they had a box of empty nautilus shells for sale, and the candles also, if she wanted to make her own. They had all been collected in the Marlborough Sounds where they can sometimes be found in great numbers. The price for the empty shells was very reasonable and Jenny acquired two large specimens. Problem: how to get them back to Wellington on the ferryboat, unbroken? Solution: the cardboard wine cask emptied earlier in the week!

The trip home, however, was not made without first making a visit to Port Underwood for the low tide. The upper reaches of Port Underwood are quite easily reached from a sealed road out of Picton. Once over the hill the road around Port Underwood is unsealed and very winding. Whangataura Bay was chosen as it had some sand and faced the open sea; also because it was not far from the sealed road for a quick getaway to the Wellington ferry afterwards.

There was quite a bit of weed growth on the low tide stones and much shell life. Of particular note were live *Xymene ambiguus* and *Trochus viridis* in good condition; also many *Buccinulum vittatum* and some *B. linea* along with *Lepsithais lacunosus*. Carolyn found a large but holed *Alcithoe arabica* washed up. It was a nice peaceful spot. The point at one end looked good for fishing and the area would be well worth a low tide visit in the future.

Carolyn concludes our diary with her account of whale watching at Kaikoura ...

"While the others went shelling at Kaikoura on the Thursday I decided to do a 'Whale Watch' trip. The day was fine and the boat ride out was comfortable. On board were fifty of us, including many overseas tourists. When the crew saw a whale or other animals nearby, the boat would be slowed to a halt so we could move for a better view or go on to the deck to take photos. I saw very clearly the backs and tails of three whales and saw up close a lot of dolphins, seals, and seabirds, including the majestic Royal Albatross.

"During the tour there was a film shown, which outlined various facts about the marine environment and creatures that inhabit the coast and waters off Kaikoura, which was interesting. The tour was about two hours long, and the Whale Watch Company offers these tours daily depending on the season, and in the event that you do not sight a whale a refund of up to 80% of your fare is guaranteed! The tour was very well organised and enjoyable, I thoroughly recommend it."

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## POTAMOPYRGUS: VARIATION IN HILL-COUNTRY STREAMS

A recently-published paper in the *Journal of the Royal Society of New Zealand* casts a new light on the wellknown morphological variation of one of our commonest watersnails – and it might stimulate one or other of our Club members to have a look at some other parts of the country and see if they can add anything further – even quite simple size and shape measurements – to these quite fascinating findings.

HAASE, M. 2003: Clinal<sup>1</sup> variation in shell morphology of the freshwater gastropod *Potamopyrgus antipodarum* along two hill-country streams in New Zealand. *Journal of the Royal Society of New Zealand* 33 (2): 549-560; June 2003.

**Abstract:** "The extremely polymorphic gastropod *Potamopyrgus antipodarum* is widespread in freshwater habitats throughout New Zealand. This study describes morphological variation of *P. antipodarum* along two streams in Waikato ... and explores relationships between morphology and selected environmental variables (temperature, conductivity, pH, flow, shade, vegetation). Along each stream, fully grown snails were collected at 11 sites extending from the source of flow to 1 or 1.5 km downstream. In both streams, shells increased in size and in one stream they also became more obese with distance from the source. Of the environmental variables assessed only flow, which increased downstream, was found to have potential influence on shell morphology. Larger snails have a larger foot and thus a larger attachment area and therefore may be able to withstand higher currents, despite having a higher Reynolds number<sup>2</sup> resulting in increased drag on them relative to smaller individuals. Other studies have found that clines of morphological variation in lakes are apparently driven by the differential risk of infection by parasites. This can be excluded for the stream populations in this study, because parasitised individuals were absent at upstream sites, suggesting that similar morphological patterns may have entirely different causes."

<sup>1</sup> A "cline" is a gradual or nearly continuous change of a character in a series of continuous population.

<sup>2</sup> Reynolds Number: a dimensionless quantity applied to a liquid flowing through a cylindrical tube relating to the velocity of the flow, the density of the liquid, and the coefficient of viscosity of the liquid.

# Wellington Shell Club - Oteranga Bay Field Trip 17/5/03



Looking north from near White Rock Hill towards Mana and Kapiti Islands



Admiring the view of the South Island in the distance



Kerry in the Mt Misery cave



The South Island beyond Oteranga Bay



Northwest back into Oteranga Bay



Jenny herding cows on the return trip



I'm telling you Pat ... it was *Amalda australis* this big!



Looking west across Oteranga Bay to the South Island



Cape Terawhiti



Looking west along Oteranga Bay

## FIELD TRIP TO OTERANGA BAY, WELLINGTON, 17 MAY 2003

By Selwyn Bracegirdle

On 17 May, 14 members of the Wellington Shell Club enjoyed a whole day field trip to Oteranga Bay - 9.45 am departure from Karori (a suburb of Wellington) to the return near 4.00 pm.

The bay is situated just south of Cape Terawhiti to the extreme southwest corner of the North Island of New Zealand - 41° 18'S, 174° 37'E. Although this is not far from Wellington as the crow flies, it is a far more adventurous journey by car. Access is by permission and the route includes overcoming the summit of Mount Misery at 483 metres as well as up to 10 kilometres of unsealed road on a reasonably steep gradient. But the view is spectacular, whether looking southwest to the South Island or north to Mana Island with Kapiti Island beyond, or even the unimpeded view east to the Rimutaka Ranges.

Near Mount Misery the group explored a short mine shaft<sup>1</sup> containing cave wetas (*Gymnoplectron edwardsii*). They were congregating in reasonable numbers on the ceiling. They like the damp and cool conditions. Mind you, it wasn't exactly tropical outside either in the cool northerly breeze.

The descent is fairly rapid from the mount to the bay, and Kerry Walton must have run a third of the way down for the fun of it. Once at the bay, its sheltered and sunny eastern side made for very pleasant shelling.

Because the bay looks southwest over Cook Strait it is very exposed to the southerly winds. It is no surprise then that Oteranga Bay holds the New Zealand maximum wind record of 98 knots gusting to 145 knots.

Oteranga Bay is typically u-shaped and about a two kilometre walk from western to eastern headlands. It has a rocky shore to the west with small beaches of medium-sized stones rubbed smooth by the action of the sea. The main beach in the centre of the bay consists of coarse sand and small smooth stones. The eastern side of the bay has rocky features interspersed with large smooth boulders. It was on this eastern side that a few small washups were found among the boulders and where the more interesting finds were made. In fact, there was an encouraging amount of fine sand between the boulders and in the shallows at low tide.

One seal was spotted close to shore keeping an eye on the shellers but the Orca whales, seen the previous day along the south coast, were nowhere to be seen.

Digby Standish enjoyed a walk beyond the western headland to a cutting that he climbed to the plateau that overlooks the bay. There were buildings here once but only chimneys and a few foundations now remain. There is a magnificent panoramic view from the bay to the Marlborough Sounds - visibility wasn't too bad under an intense blue sky. From here Digby returned by a more devious route around Terawhiti Hill.

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<sup>1</sup> More properly termed a "drive" - a relic of the Makara Pioneer mine of 1869 - see the following note by Elliot Dawson.

A few 4-wheeldrive vehicles paid us a visit having travelled along the south coast, and, as we were departing, a herd of cows took over the eastern side of the bay – our departure was god timing.

There was so much left unexplored in this region that it would warrant future investigation.

The highlights of the shell finds included:

1. Jenny Raven found three specimens of *Montfortula chathamensis*;
2. Ian Townsend and Selwyn Bracegirdle found a specimen each of *Epitonium jukesianum*;
3. Selwyn also found both halves joined of a *Myllita stowei*;
4. Graham Aamodt found, with good colour, a *Modelia granosa*;
5. Kerry Walton found a broken valve of the little black ribbed brachiopod *Notosaria nigricans* and several people collected odd valves of the red “toe-nail” brachiopod *Calloria inconspicua* – which delighted Elliot as further locality records to incorporate in his current project.

A number of *Tugali suteri* were also found on the eastern shoreline and a couple beyond the western headland. There was also quite a variety of Haliotidae.



## OTERANGA BAY – SOME BACKGROUND NOTES

By Elliot Dawson

Oteranga Bay is part of the Terawhiti goldfields area, which has been documented, mapped and illustrated in a very detailed account by James Brodie, 1986: *Terawhiti and the Goldfields* (Karori Historical Society, 328 p). Mount Misery is also known as Trig A or Flaxy Knob since it apparently was covered in flax even before the bush was cleared. The bay was called Oterangu (i.e. ending in ‘u’) in earlier days. Another book revolving around the history of the bay itself, is in preparation by the same author. The “cave” with the wetas which we explored is the remains of the major “drive” of the mine worked by the Makara Pioneer Quartz Reef Gold Mining Company in 1869. The history of this mine is related in *Terawhiti and the Goldfields* in which it is noted that this drive went as far as 140 feet into solid reef before the project was apparently abandoned about August 1869. The author remarks: “One of the tunnels [“our” one!], still about 200 feet long, is now a few feet above the Electricity Division’s road from Makara Valley to Oterangu Bay.” - and, “One further tunnel and evidence of two shafts sunk alongside the quartz reef can still be seen.” A sketch map showing the location and extent of these workings is given at page 87 of his book.

Oteranga Bay is also notable as being the North Island terminal of the Cook Strait power cable, a 39.1 kilometre 500 KV direct current cable laid in 1961 and commissioned in 1965, linking the South Island hydroelectric site at Benmore (from Fighting Bay northeast of Blenheim) to the North Island grid at Haywards, above the Hutt Valley. The first cable (a telegraph line of 100mm diameter) to cross Cook Strait was laid as early as 1866 from Whites Bay in Marlborough to Lyall Bay in Wellington where a relic of it still lies on a reef in about 34 metres depth and a kilometre offshore. There are 3 power cables, each of a 125 mm diameter, lying a kilometre apart across the Cook Strait deeps. In November 2002 two 41 mm fibre-optic cables were laid by Transpower

over the same route! The contractors, Seaworks (owned by Bill Day, famed for his salvage work on the wreck of the treasure ship *General Grant* off the Auckland Islands) used the Cable Ship *Searanger* and divers from the company's vessel *Seawatch* fitted protective split pipes at the landing site at Oteranga Bay, burying both cables to a depth of 600mm and marked by coloured poles (which we noted on our day there). The history of the Cook Strait power cable has been described by Peter Taylor in his *White Diamonds North. 25 years' operation of the Cook Strait Cable 1965-1990* – an interesting read.

Oteranga Bay is also very important in the history of Maori occupation in this part of Wellington. It was the site of one of the three most important Te Atiawa kainga on this south coast. Much of the land in the bay was taken by proclamation as early as 1882 for a Cook Strait cable station but Maori title records were finally consolidated in 1961. Many signs of occupation were visible in the early days of European settlement and recent archaeological surveys have confirmed evidence of the history of the bay – which Adkin (1959: *The Great Harbour of Tara*, Wellington: Whitcombe & Tombs, 145 p.) called "O-te-rongo" bay. He also tells the legend of a taniwha who lived at O-te-rongo in the time of the Ngati Ira occupation but was said to be not of the man-eating variety, nevertheless coming out of the sea whenever a traveller lit a fire near its abode. The taniwha would then extinguish the fire, resulting in the immediate rising of a "tonga" or southeasterly gale. So, I guess we were lucky we didn't have a BBQ on the beach on our fieldtrip!

And a new book on the history of the Terawhiti Station has just appeared [6<sup>th</sup> August] – since our trip there – it's *Terawhiti* by Catherine Morrison, published by Art Bee's Books, Wellington, 2003, 198 pages, illustrated. It should be useful to read this if we ever plan another excursion to this pretty interesting, rather remote part of our region.

A couple of interesting aerial photographs of Oteranga Bay which show the large terraces, including the one onto which Digby climbed, which were cut by wave action at a time of higher sea-levels, can be seen in Dr Graeme Stevens' great book on the geological history of the Wellington region (Page 117 in - Stevens, G.R. 1974: *Rugged Landscape*, Wellington: A.H. & A.W. Reed, 286 p.) An interesting find was made at Oteranga Bay on 13 September 1998 – the body of a very rare whale, *Tasmacetus shepherdii*, Shepherd's Beaked Whale, now preserved at Te Papa. Only about 30 of these whales have ever been found worldwide.

Some of our members may have been puzzled by the large concrete blocks on the shore at the western end of the bay. These are, in fact, part of a series of 700 kg test blocks placed there by BRANZ [the Building Research Association of New Zealand] which picked this heavily salt-laden windy location to determine how salt gets into concrete. Cores were taken from the blocks every six months to reveal the supposed reduced ability of concrete to resist chloride as it ages. So Oteranga Bay is more than just a haven for shell collectors. We learn something new every day!

**CONFIRMATION OF THE PRESENCE OF  
THE FRESHWATER SNAIL  
*Lymnaea [Radix] auricularia* (Linnaeus, 1758)  
ALIVE IN NEW ZEALAND**

**By J. Ian TOWNSEND**

*Lymnaea auricularia* (Linnaeus, 1758), a species widely distributed in Europe, northern and eastern Asia and introduced to North America, was recorded in New Zealand (as *Limnoëa*) by Suter (1913: 1071) from "An empty shell found near Wanganui", and this only in the appendix rather than with the main body of text dealing with the other introduced species of freshwater snails. Since that time other authors – Dell (1956), Ponder (1964), Climo & Pullan (1972) Winterbourn (1973), and Powell (1979) – have made no reference to this species, so it could be assumed to be no longer present in New Zealand. Looking at these paper leads one into a mire of taxonomic disagreement – the authors have their own versions of what genus is appropriate and one (Winterbourn) goes so far as to say that there is only one variable species in Australia and New Zealand. Spencer & Willan (1996) list yet another generic change to *Radix* Montfort, 1810 for this species, but for the sake of easy recognition I have kept here to the better-known name of *Lymnaea*. [I am very grateful to our trusty editor, Elliot Dawson, for alerting me to this latest twist to the taxonomy and also to the following record.].

In 1977 *Lymnaea auricularis* was found in a small pond on a farm near Ashurst in the Manawatu (Charleston & Climo 1979) and was stated to be the first record of this species in New Zealand (apparently being unaware of Suter's note of 1913). However, when searched for again in 1979, no molluscs of any kind were found, so it seems that this colony also had died out.



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*Lymnaea auricularis* is so distinctive with its greatly accelerating whorls from a diminutive protoconch to a trumpet-like aperture – from which it gets its name 'ear snail' – that there seems little doubt about this species. I have had to go to English publications – Clegg (1956) and Beedham (1972) – to check its identity. Charleston & Ponder (1979) have good photographs also. There are, of course, other introduced freshwater snail species from Britain and Europe, the best known being *Lymnaea stagnalis*, which, itself, is remarkably variable in size.

The present record (June 2003) comes from a private garden at Otumoetahi, Tauranga, where there were numerous specimens in a fish pond. I examined several live ones but took only one

<sup>1</sup> Editorial note: We thank our colleague Luboš Kolouch from the Czech Republic for allowing us to use his photograph of *Radix auricularia* (the specimens measure 24.8 x 19.8 mm with 4.55 whorls and 21.85 x 15.3mm with 4.2 whorls). Luboš would be very pleased to correspond with or exchange with any of our Club members (email to: lrk@seznam.cz).

dead shell for a reference. It is thought that the snails may have been introduced with water weed or fish from an Auckland dealer.

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## HOW THE TOHEROA ARE DOING: SOME GOOD NEWS ?

The report of a new survey of toheroa beds off Dargaville make interesting reading – especially the comparison with the previous survey done in 1974. Even with a "standard error" of 33 million, 113.5 million is a mighty lot of shellfish – so we should rejoice that things look good again.

AKROYD, J-A. M.; WALSHE, K.A.R.; MILLAR, R.B. 2002: Abundance, distribution, and size structure of toheroa (*Paphies ventricosa*) at Ripiroa Beach, Dargaville, Northland, New Zealand. *New Zealand Journal of Marine and Freshwater Research* 36 (4): 547-553; September 2002.

Abstract: "The distribution of toheroa (*Paphies ventricosa* Gray) beds, and the abundance and size structure of toheroa at Ripiro Beach, Dargaville, New Zealand, were determined by a two-phase stratified sample survey. The first phase was undertaken in February and March 1999 and the second phase in June 1999. The first phase located and sized 45 toheroa beds, and stratified the beds according to the observed density of siphon holes. A total of 53 transects were sampled. The transects were run perpendicular to the shoreline and positioned systematically within each stratum. Along each transect the sampling of beds was done at 5 m intervals using a 1 x 0.5 m quadrat. Outside of the beds, sampling was done at 10 m intervals. The total number of toheroa = 75 mm (previous minimum legal size) was estimated to be 3.3 million with a standard error of 480 000. This abundance of legal-sized toheroa is roughly comparable with numbers last seen at Ripiro Beach in the late 1960s. The total abundance of toheroa of all sizes was estimated to be 113.5 million with a standard error of 33 million. It appears that there has been a good recruitment of 0+ toheroa on Ripiro Beach and the abundance of toheroa of all size ranges has greatly increased since the previous survey in 1974."

# SHIPS & SHELLS - REVISITED\*

By Edmund Busby

The subject of my talk this evening is "Ships and Shells". You may well ask what possible connection there can be between them, apart from the obvious one that a large number of shells and most ships like to live in water, and that some shells attach themselves to the underside of ships and go joy-riding around the world, much to the delight of the shells and the annoyance of the shipowner who has to pay to have them scraped off at regular intervals. The connection lies in the large international company we know as the Shell Oil Company, which, for nearly a hundred years has been naming its ships after shells.

The Shell Company was started in the mid 19<sup>th</sup> century by a Londoner called Marcus Samuel. He had inherited a modest fortune from his father who had traded in the Far East, specialising in the import to the U.K. of fashionable boxes decorated with shells, and, I suspect also, trading in Trochus shell and trepang. Marcus extended and developed this Far-Eastern trade, and built a strong base in Japan, whence he exported coal. It appears that he was inevitably drawn into the oil business with the discovery of oil in the Netherlands' East Indies (now Indonesia).

In 1892 a ship loaded a cargo of oil at the Black Sea port of Batum destined for Singapore and Bangkok, and in doing so created 3 "firsts":

1. It was the first oil cargo following an agreement between Czarist Russia and the Shell Company;
2. It was the first ship to carry a bulk dangerous cargo through the Suez Canal, having been specially built to comply with the stringent requirements of the Suez Canal Company Authorities;
3. She was the first "Shell" tanker. Her name was the SS *Murex*.

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\* This is a slightly-edited version of a talk given to the Wellington Shell Club by the late Captain Edmund Busby on 25<sup>th</sup> August 1988. It originally appeared in *Cookia* Vol. 6 No. 2 March 1989. It is reprinted here as a reminder of the contribution to the Club which he made. The present Editor has taken the liberty of adding his comments as endnotes to the original text, following discussion with Captain Busby that he, himself, would willingly update it when he found time to do so. Captain Busby, a former President of the Wellington Shell Club, was one of our much respected and ever-friendly, enthusiastic members. He was born in Gloucester, England, on 13<sup>th</sup> January 1923, and died on 10<sup>th</sup> January 2002. He became a cadet with Shell Oil at the age of 16. He married Betty (whom he had met as 14-year-olds) in 1947 after an exciting 6 years of wartime running with Atlantic convoys (being torpedoed twice!). Captain Busby was sent to Durban to bring out New Zealand's first coastal tanker to the then new Marsden Point oil refinery; he continued to command tankers in New Zealand for some years until his retirement where he devoted himself to building a large boat in his small front yard, as well as being actively involved in the local civil defence unit – and, of course, also in our Club. Edmund and Betty lived on Point Howard just above the Wellington Harbour oil wharf, and, rather remarkably, Edmund was able to walk home when his ship berthed only a few hundred metres below his house. Rather than publishing a formal obituary [there was one written by Ann Packer in *The Eastbourne Herald* 22 March 2002: 11]. Captain Busby's own article, reissued here, tells, in his own words, of his interesting and eventful career.

The *Murex* was followed closely by a *Clam* and a *Conch*. So the pattern was set, and is still followed to this day. Dozens, if not hundreds, of shell names have been used, some two or three times over, on successive generations of ships.<sup>1</sup>

Now, the English sea-transport branch of Shell was, in 1939, known as the "Anglo-Saxon Petroleum Company", and it was this company that I joined on 1<sup>st</sup> September 1939, thus beating World War II by just 48 hours. As an Apprentice Officer I received the princely salary of £60 – not a month or a year – but spread over 4 years! Luckily for us, perhaps, the war came along and we were given a bonus of £6 per month for the first two years of apprenticeship and £12 per month for the latter two years.

I was appointed to my first ship at Hebburn-on-Tyne on 11<sup>th</sup> September – a standard vessel of her time, very small by present-day standards, capable of loading 12,000 tons of petrol and travelling at a speed of about 11½ knots. Ironically, she had been built in Germany in 1936 at a place called Vegesack near Hanover. I well remember the two tiny shells in their glass case in the Officers' dining saloon. The ship's name was *Tornus*.<sup>2</sup> We have a *Tornus* shell in New Zealand found in deep water near the Three Kings Islands. They are described as minute, thin, white, and subglobose, and they are only about 1.5 mm high.

During my term on the *Tornus* we had plenty of adventures, including many unpleasant ones due to the war, and we ran mainly between the West Indies (Curaçao, Trinidad, or Aruba), and Britain's river Mersey, via Halifax, Nova Scotia, for the Trans-Atlantic convoy.

After two years I went on leave, though in wartime England this was not necessarily a pleasant experience. Travel was restricted and there was no petrol to run a car. I spent most of the two months at my parents' home near Salisbury, Wiltshire, where we could distinctly see and hear the nightly pounding of Southampton by the German Luftwaffe.

It was, I think with relief, that I went to my next ship, which I joined at Birkenhead on the river Mersey. She had been built there in 1939 and, though much the same size as the *Tornus*, was more comfortable. The ship was named the MV *Diloma*. Our New Zealand *Diloma*<sup>3</sup> is described as depressed globose, bluish to almost black, smooth except for weak spiral striations, about 20 mm high, and found on the open coasts of both islands browsing on kelp in the upper tidal zone. More abundant in the south, they appear to prefer colder water. The ship's name shell had, by now, retreated into a little glass-fronted niche in the bulkhead of the Officers' dining saloon and had its own illumination.

The *Diloma* was not a very happy ship, mainly because she appeared to be prone to accidents, large and small, culminating in her being torpedoed in the mid-Atlantic in March 1942.<sup>4</sup> She did not sink and there were no casualties. We made it safely to Halifax, Nova Scotia, where the vessel received temporary repair, thence to Baltimore, U.S.A., for a more permanent job. On return to the U.K. – during which time we had yet another more serious accident – I left the *Diloma* at Liverpool and went home for a short leave.

My next ship was the MV *Carelia*, built in Holland in 1937, a fine comfortable vessel which had started life under the Dutch flag but was one of a batch which changed over to the Red Ensign before the start of World War II. *Carelia*<sup>5</sup> is a Philippine land snail about 30 mm high and does not have any relatives in New Zealand. Not a very well-known shell, so I had to ask Bruce Marshall's assistance to refresh my memory, and he kindly showed me the Museum's specimens. My stay in the *Carelia* was notable mainly for the completion of a 6-week voyage from Beaumont, Texas, to Capetown via the Panama Canal and Cape Horn. We rounded the Cape on

Christmas Day 1942. It was cold and bleak. I left the *Carelia* at Port Said in February 1943 having accrued sufficient sea time to sit examination for Second Mate's Certificate, and went back to Suez by rail to join another ship ostensibly on her way back to Britain. This was the MV *Spondilus* (and they spelled that way!), a very old ship dating from 1927. *Spondylus*<sup>6</sup> is an Indo-Pacific and northern Australian shell, the Thorny Oyster, a magnificent shell but not found in New Zealand except as a fossil.

Eventually the *Spondilus* tottered into North Shields in November 1943, and I left her, my apprenticeship completed. Having obtained my Certificate, my first appointment as Third Officer was to a ship called the *Cliona*<sup>7</sup> which I joined at Thames Haven. I was never able to recall the *Cliona* shell, and it was not until a few weeks ago when I was browsing through Morton & Miller "The New Zealand Seashore" when I found a picture of *Cliona* – a yellow sponge! How this came to rest amongst the shells I do not know. Fortunately, I did not stay on the *Cliona* very long for, on arrival at New York for dry docking, I left this old and rather uncomfortable ship for one even older. This was the MV *Megara* – another non-shell!<sup>8</sup> Her sister ships were called *Mirza*<sup>9</sup> and *Maja*,<sup>10</sup> and exactly what significance these names have I do not know. The *Megara* had been built in France in 1929 but her claim to fame was that, in the pre-war years, she had been rebuilt to carry sulphuric acid and LPG as well as oil – probably the only ship like it in the world at the time, and appropriately valuable to the Allied cause.

Six weeks later, and in Curaçao, I left the *Megara* and was transferred to the CSM, a Shell subsidiary which ran a fleet of 30 small tankers under the Dutch flag, bringing crude oil from the Maracaibo Lagoon to Curaçao for refining. Popularly known as the "mosquito fleet", these small ships were given the names of Spanish girls (not a shell name amongst them nearer than Conchita!) – a nice traditional way of naming ships. My three were *Marsella*, *Ramona*, and *Rita*.

In order to go back to England when my leave was due, I was transferred to the MV *Northia*, a war-built ship familiar in layout and very comfortable. The *Northia*<sup>11</sup> shell belongs to the family Buccinidae and is found in North America.

After about five weeks at home, I was sent to Liverpool to join a ship called the *Hopemount*, another non-shell.<sup>12</sup> This ship was a total stranger that the Shell Company had acquired during the war. Her one claim to fame was that was fitted out for "oiling at sea" – that is, refuelling warships whilst underway at sea. After the war she was renamed *Kelletia*,<sup>13</sup> so she did eventually become a "shell".

December 1945 – the war was over when I went to Liverpool to join the *Narica*. She was almost identical to the *Northia* but slightly older. *Narica* is another very small, thin, white shell belonging to the family Tornidae, but, apart from the fact that the genus was described by Alcide d'Orbigny in 1842, I have no further information about it.<sup>14</sup> We arrived in Barry, Wales, during February 1946, and I paid off in order to study for my next senior certificate.

In New Zealand, at present, we have three ships with shell names: *Paua*, *Tanea*, and *Maurea*, all names of local significance and in keeping with the Shell tradition.

The Shell Company fleet was divided up alphabetically into "Classes", but the system was very flexible. Thus, the *Tornus* and her sister ship *Taron*<sup>15</sup> were known as the German Ts", and the *Thiara*,<sup>16</sup> *Torinia*,<sup>17</sup> *Tibia*,<sup>18</sup> and *Taria*<sup>19</sup> were the "Big Ts" (they were slightly larger than the standard ships in the fleet), but possibly the best-known were the "T2s". During the war, the U.S.A. had built no less than 481 turbo-electric tankers known as T2s. After the war, many of these ships were sold off to private ownership. The Shell Company bought 18 of them and, very

appropriately, renamed them with shell names beginning with the letter "T". Such names as *Thelidomus*,<sup>20</sup> *Trigonisimus*,<sup>21</sup> *Thallepus*,<sup>22</sup> and *Tresus*<sup>23</sup> appeared. I am unable to fit a shell to any one of these names, and to me they sound ugly and unmellifuous.

And, yes, there was a "Z" Class, Two ships, *Zenatia*<sup>24</sup> and *Zaphon*,<sup>25</sup> were built in 1957 and sailed under the Red Ensign. It is here that a New Zealand angle enters the story.

During the late 1960s, the Auckland Harbour Bridge was widened. The method adopted by the Japanese contractor was to have sections of bridge built in Japan and transported to New Zealand on the decks of cargo ships. On arrival in Auckland, these sections were lifted off using powerful floating cranes and placed on a Dumb Barge. Now, a Dumb Barge is one that has no inbuilt means of propulsion, but is towed around by tugs. It can be of any size, from quite large to very small. I was Master of the tanker MV *Athelviscount* at the time, and I was walking from the ship, berthed at Wynyard Wharf, towards Auckland city, along the western viaduct. The big barge (whose Japanese name I have long forgotten) was at the time having a rest alongside the viaduct and, on looking up at her bows, I was able to descry her original name. It was *Zaphon*. I imagine the *Zaphon* was on her way to the scrapyard when the Japanese contractor bought her, lopped off the engines and accommodation, and turned her into a barge suitable for the Auckland Harbour Bridge project.

<sup>1</sup> Another article on the early history of the Shell Company lists some ships' names which have been used by the Shell Company: *Murex*, *Conch*, *Turbo*, *Clam*, *Trocas*, *Spondilus*, *Elax*, *Volute*, *Bulmouth*, *Euplectela*, *Pecten*, *Telena*, *Nerite*, *Cowrie*, *Strombus*, *Cardium*, *Bulysses*, *Nivosa*, and *Cellana* – see GORDON, Craig. 2000: "From souvenir boxes to a multinational corporation. A brief look at the beginnings of the Royal Dutch/Shell Group. *Keppel Bay Tidings* 39 (4): 5-6, 7 figs. There is also a brief article by Elliot Dawson (1995) on the Shell logo in *Cookia* 7 (2): 23-24.

<sup>2</sup> *Tornus*: a genus of molluscs named by Turton (1830: 192).

<sup>3</sup> *Diloma*: a genus of molluscs named by Philippi (1854: 188).

<sup>4</sup> During World War II the Royal Dutch/Shell Group of Companies lost 87 tankers and other ships to enemy action.

<sup>5</sup> *Carelia*: a genus of molluscan genus named as a subgenus of *Achatina* Lamarck by Henry & Arthur Adams (February 1855: pt X, vol. II:132).

<sup>6</sup> *Spondylus*: a genus of molluscs named by Linnaeus (1758: 690) – from the Greek for a vertebra – but *Spondilis* – as the spelling applied to the Shell tanker – has been proposed for a genus of beetles (Coleoptera) by Cuvier (1800: I, pl. 8 – an invalid name) and used by Vérany (1846: 12) for molluscs as a misspelling of the original Linnaeus name. *Spondylis*, another name, was proposed for a genus of beetles by Fabricius (1775: 159) and was misspelled *Spondylus* by Thomson (1866: Vol. 8: 17) in a catalogue of Scandinavian beetles. *Spondylus* was a name given to a shell by the Greek natural historian Claudius Galen (born AD 131) to according to Fischer (1887: 938).

<sup>7</sup> *Cliona*: a genus of the Porifera (sponges) was named by Grant (1826: 78), and listed again by Agassiz (1846: 21 and 1848: 259) attributed to a mollusc name of Fleming (1822), actually a misspelling for *Ciona* Fleming, 1822, a genus of Tunicata (sea squirts and their relatives).

<sup>8</sup> *Megara*: a genus of molluscs named as a subgenus of *Gyrotoma* Shuttleworth by H. & A. Adams (February 1854: pt IV, vol. 1: 306) and also by J.E. Gray (1840) for a genus of reptiles (actually an invalid name). Megara, daughter of Creon, King of Thebes, was also the first wife of Hercules (Herakles or Alcides), son of Zeus and Alcmene. She was given to Hercules in payment for his victory over the Minyans of Orchomenus. Megara is also a city of the Isthmus of Corinth in Greece, and is the centre of much ancient

Greek mythology (in which many names now used for shells appear). There is also a town of this name in Sicily founded by the Dorians from Megara in Greece in 728 BC. Also, there's a more recent reference to a tanker named *Megara* - according to the *International Herald Tribune* of 17 February 2001, Knightsbridge Tankers Ltd, based in Bermuda, have their sole business in leasing a fleet of 5 supertankers, known as VLCCs ("Very Large Crude Carriers") at a minimum of US\$22,069 per day to the Royal Dutch/Shell Group - they include the *Murex*, *Macoma*, *Magdala*, *Myrina*, and another *Megara*, each of 332 metres length and carrying 2,222, 920 barrels.

<sup>9</sup> *Mirza*: This is not listed as a mollusc name in Neaves's *Nomenclator Zoologicus* - the official listing of all new generic names - however, a genus of monkeys was given this name by J.E. Gray (1870: 131, 135).

<sup>10</sup> *Maja* [*Maia*]: a genus of crabs named by Linnaeus (1758) as *Maja*, later by Lamarck (1801: 418) as *Maia* and by De Haan (1839: 80), and also, as *Maja*, in the synonyms of *Amadina*, a genus of birds by G.R. Gray (1841: 59), and, also for birds, as *Maia* by Reichenbach (1850: pl. lxxvi), and for a fossil brachiopod by Frédéricks (1924: 300). Often, as *maia*, it figures as a specific names for other crabs, e.g. *Cancer maia*, *Lithodes maia* [correctly *maja*]. *Maia* means "granny" according to D'Arcy Thompson's *Glossary of Greek Fishes*. *Maia*, in mythology, was the Roman goddess of Spring, and the eldest daughter of Atlas, supporter of the world, and Pleione, the most beautiful of the Pleiades who were changed into doves and placed among the stars (known to the ancient Maori as Matariki). *Maja* was the mother of Hermes (Mercury), messenger of the gods, by Zeus (Jupiter), king of the gods.

<sup>11</sup> *Northia*: a genus of molluscs named by J.E. Gray (1847: 140) to include *N. pristis* (Deshayes), and also used in the Lepidoptera [butterflies and moths] by Walker (1854: 141), as well for a polychaete worm by Johnston (1865).

<sup>12</sup> The *Hopemount*, 7473 tons, was built in 1929 by Swan, Hunter Ltd at Wallsend-on-Tyne.

<sup>13</sup> *Kelletia*: a genus in the Buccinidae was named in Fischer (1884: 625) as a subgenus of *Siphonalia* from a manuscript names of Bayle's of 1884, and is represented by the Turban shell *Kelletia kelletii*. It is sometimes misspelled *Kellettia*, as by Dall (1907: 156).

<sup>14</sup> *Narica*: a mollusc genus named by Orbigny (1842) according to Neave, but attributed to Récluz (1841) in Orbigny by Fischer (1887: 761) and derived from the name of a fish cited by Aldrovandi (author of *La Nature et Diversité des Poissons*. Paris, 1555 - so, a very old name indeed!).

<sup>15</sup> *Taron*: a genus proposed by F.W. Hutton (1883: 119) to contain *Trophon dubius* Hutton from Auckland, now in the Fascioliariidae and known to us by three species in New Zealand.

<sup>16</sup> *Thiara*: a genus of molluscs named by Bolten (1798: 109) and again by Menke (1828: 24).

<sup>17</sup> *Torinia*: a molluscan genus mentioned by J.E. Gray (1840: 147 [*vide* Neave] - an invalid name), and again in 1842 (p. 60).

<sup>18</sup> *Tibia*: a genus of gastropod molluscs named by Bolten (1798: 123).

<sup>19</sup> *Taria*: a genus of molluscs named by J.E. Gray (1853: 44). On the New Zealand scene, it was once used a generic name for species now included in *Paphies*.

<sup>20</sup> *Thelidomus* [also sometimes misspelled '*Thelidonus*']: a genus of freshwater snails named by Swainson (1840: 191). Subsequently it was suggested by B.R. Dyer in 1878 that this supposed shell was merely the case of a caddis-fly, being particles of sand cemented together in a helical form in imitation of a shell shape now known as "Swainson's Mistake" is a characteristic land snail in Jamaica. Incidentally, this was the same William Swainson, distinguished naturalist, who emigrated to New Zealand and now lies in the St James's churchyard, Lower Hutt. There was also an Esso Company tanker with this name, sister ship of the

*Tomocyclus* and *Esso Den Haag*, a wartime tanker built in 1944 at Chester, USA, as a "T2 standard-type Hobkirk's Hill", 10,667 tons.

<sup>21</sup> *Trigonisimus*. Not listed in Neave's *Nomenclator*. Probably a spelling error for *Trigonosemus* named by König (1825 3,) subsequently a subgenus of the brachiopod *Terebratella* d'Orbigny, 1847).

<sup>22</sup> *Thallepus*: a genus named by Swainson (1840: 250, 359), now a synonym of *Elysia* Risso, 1818 (Opisthobranchia)..

<sup>23</sup> *Tresus*: a genus in the Mactridae, named by Gray (1853: 42), represented by the Horseclams of North America, *T. capax* and *T. nuttalli*. It was considered by Fischer (1887: 1119) to be a synonym of *Schizothaerus* Conrad, 1852, a subgenus of *Lutraria* Lamark, 1799). *Tresus* was also used earlier by Walckenaer (1833: 438) as the name for a genus of spiders according to Neave.

<sup>24</sup> *Zenatia*: a genus of the Mactridae proposed by Gray (1853: 43), known to us by *Zenatia acinaces* (Quoy & Gaimard, 1835). The present-day tanker named TS *Zenatia* was built in 1956 by Cammell Laird to the order of Shell Tankers Ltd of London. for the transport of crude oil in bulk from the Persian Gulf to refineries in Britain. In 1966 she was lengthened, widened and deepened at a Japanese shipyard to be 842 ft long and 89.956 tons deadweight. She sailed under the Hong Kong flag for the Shell company .

<sup>25</sup> *Zaphon*: a molluscan genus named as a subgenus of *Nassa* Martini by H. and A. Adams ( August 1853, pt IV, Vol. I: 121) to contain *N. (Z.) elegans* (Reeve). It is used now as a subgenus of *Nassarius* (Nassariidae). It is also a city and a Canaanite mountain in the territory of Gad (*Joshua* 13: 17) and figures much in biblical texts and commentaries. The present-day tanker TS *Zaphon* sails under the Liberian flag for Shell International Trading & Shipping.

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# *Myllita stowei* : THE MOLLUSC AND THE MAN – SOME THOUGHTS FROM OTERANGA BAY

By Elliot Dawson

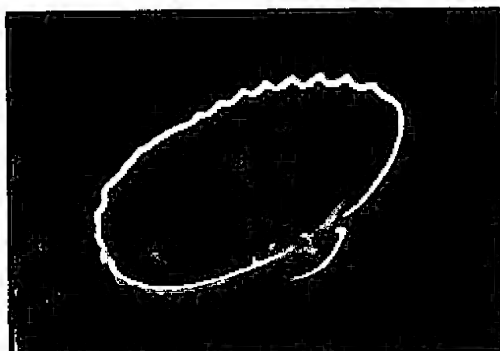


Photo: Selwyn Bracegirdle [width 10 mm]

One of the New Zealand bivalves that has intrigued me particularly, because of its simple but striking ornamentation, is *Myllita stowei*. It's not a particularly commonly-found species. Powell, in the last edition (1976) of his 'Shells'<sup>1</sup> illustrated it [Plate 17, figure 18], noting – "Not uncommon, under stones at low tide." Powell's 1979 manual<sup>2</sup> says of its distribution [p. 392, fig. 100:1]: "North, South and Stewart Islands, but more abundant in the north ... lightly attached by byssus threads to the undersides of stones, embedded in sand." It is described as creamy-white in colour, height 5.5-8.0 mm, width 8.75-14.0 mm, and thickness 4.4-7.2 mm.

Suter's Manual of 1913/1915 [p. 929, pl. 54, fig. 2]<sup>3</sup> says of the known distribution of this species: "Hab. – Islet Reef, Cook Strait (type); Hauraki Gulf, fixed to the under-side of stones by the byssus (H.S. [Suter]); Bay of Islands (J.C. Anderson [= Andersen]); Foveaux Strait, in 15 fathoms (A. Hamilton)."

In 1926, Finlay<sup>4</sup> separated *Myllita stowei* in a new genus *Zemyllita*. This name is currently used as a subgenus.

In his study of the anatomy and life habits of some of our very small New Zealand bivalves belonging to the family Erycinacidae,<sup>5</sup> Dr Winston Ponder described the external appearance, locomotion and ciliary feeding currents of *Myllita stowei*, of which he said:

"... a small bivalve ... not uncommonly encountered as dead valves in debris on the shore. As a living animal, however, it is very rarely found."

This study was based on a single living specimen obtained at Takapuna, Auckland, "under a large stone deeply embedded in black, anaerobic sand at low tide" and "attached to the bottom of the stone by a few thin byssal threads" – so that may indicate the sort of place in which we might search for it, too!

The published Spencer & Willan checklist of 1996<sup>6</sup> places it in Finlay's subgenus *Zemyllita* and categorizes it as "A.C.F." which means that it has been found to range throughout the New Zealand marine area from the north to the south (as far as Stewart Island) but not in the Subantarctic or the Chatham Islands (the later "online" version<sup>7</sup> places *M. (Z.) stowei* as an endemic species (E) in the family Lasaeidae).

In our recently published Wellington Shell Club lists, Jenny Raven<sup>8</sup> has it recorded from Wellington Harbour, on the Wellington west coast from Green Point and off Kapiti, at Te Awaiti/Tora and Castlepoint on the lower east coast and in shell sand at Mahia.

Selwyn Bracegirdle collected a paired specimen (width 10 mm) during our fieldtrip to Oteranga Bay on 17 May this year. I was pleased to see this little shell again and Selwyn's digital image of it – the fresh colour really is a "creamy" white. And it set me thinking – who was it named for? Where was it first found? And so on...

F.W. Hutton, that great "polymath" naturalist, soldier, scientist, teacher and evolutionist,<sup>9</sup> described it in 1873 on page 76 in his classic work, the *Catalogue of the Marine Mollusca of New Zealand*,<sup>10</sup> as *Pythina stowei* with its type locality being stated as "Islet Reef, Cook Strait" and based on "two left valves only." Who was Stowe? And does anyone know where Islet Reef is?

Hutton was hired by Dr James Hector (subsequently "Sir James") in 1871 to join the Geological Survey, and one of his primary tasks was to catalogue the holdings of the Colonial Museum [1865-1907] – which subsequently evolved into the Dominion Museum [1907-1973], then the National Museum of New Zealand [1973-1981], and now the Museum of New Zealand Te Papa Tongarewa. So this catalogue of New Zealand shells was one of the series<sup>11</sup> which Hutton was able to produce, quite diligently and within a remarkably short period of time, before he left for Otago in 1873.

When we look at Hector's "Preface" to Hutton's catalogue, we read:

"The collection of New Zealand shells now accumulated in the Colonial Museum, and on which the following catalogue is chiefly founded, was commenced by a small number of species transferred to the Museum by the New Zealand Society ... the first attempts at their classification was made by Mr. Edwin Stowe, who in 1870 prepared a catalogue, and determined many of the genera and a few species. Mr. Stowe also contributed a large number of duplicates, which will be useful for exchanges, and added a few new species found in the vicinity of Wellington."

The New Zealand Society,<sup>12</sup> a scientific and literary group founded on 2 July 1851 by the intellectual elite of the Wellington pioneers [including such well-known names, commemorated now by Wellington streets, as Featherston, Hunter, Wakefield, Woodward, Brandon, and Waring-Taylor], had its ups and downs organisationally – especially "lean times" 1853 to 1861 – until it changed its name in 1868 to The Wellington Philosophical Society which subsequently became incorporated with The New Zealand Institute, the chief scientific society in New Zealand from 1867 which, itself, became The Royal Society of New Zealand in 1933.<sup>13</sup>

In the first (and only) catalogue of the holdings of the Colonial Museum (established with the Geological Survey in September 1865), issued in 1870,<sup>14</sup> there is a section called "Recent Mollusca" (pages 84-106) which includes the New Zealand collections. On page 102 of this section is listed *Pythina* [species] "a" from "Islet Reef". In the Preface, dated 20 August 1870, Dr Hector said of this catalogue:

"In its preparation, the officers of the department have received great assistance from several amateurs, and particularly from Mr. E. Stowe, who was sedulously engaged for several months in preparing that portion of the Catalogue which relates to the recent shells of New Zealand."

Hamilton, Director of the Colonial Museum, issued a new catalogue of the Mollusca collection in the Museum's first Bulletin in 1906<sup>15</sup>. In this, he noted that Henry Suter had re-examined the collection in 1904, following publication of Hutton's first complete listing of the whole fauna of New Zealand as then known,<sup>9,16</sup> and had renamed the specimens accordingly. Hamilton followed Hutton's 1873 statement that "... the first attempt at their classification was made by Mr. E. Stowe, who in 1870, prepared a catalogue ...". Hamilton noted the following specimens then in the collection: Page 33, "*Astraliium sulcatum* var. *davisii*, Stowe. One specimen (No. 187)" – page 39, "*Myllita stowei*, Hutton. Lyall Bay. Two valves (No. 355)." – page 40, "*Anomia stowei*, Hutton. Picton (Type.) One specimen (No. 372)." Further on, Hamilton gives an interesting

... compilation of patronymic names – those commemorating or honouring various people – including: Page 42, “DAVISII. (Mr. Davis was an assistant on the Geological Survey of the colony. He was drowned in a West Coast river.<sup>17</sup>) *Astralium sulcatum*, var. *davisii*, Stowe, T.N.Z.I., iv, 218” and at page 46, “STOWEI. (Mr. Stowe was one of the first to arrange the marine shells in the Colonial Museum.) *Myllita stowei*, Hutton, Man. N.Z. Moll., 157. A.M.N.H., 6, viii, pl. xiii. *Anomia stowei* Hutton, Cat. N.Z. Moll. 173.” The other day, Bruce Marshall showed me the original type specimens of *Myllita stowei* at Te Papa, still securely and carefully curated over more than 133 years – a thrill to see them and a fine example of one of the primary functions of a museum.<sup>18</sup>

Hutton in his 1880 Manual<sup>19</sup> recorded *Pythina stowei* from “Islet Reef, Cook Strait: and Auckland (Cheeseman)”. Stowe’s *davisii* he placed in the genus *Calcar* Montfort, remarking – “The spire is much more acute than the last [i.e. *C. cookii*], but perhaps it is only a variety”, and recording it from “Cook Strait and Blind Bay”. Suter (1913/15: 166, pl. 41, fig. 3) listed and illustrated Davis’s shell as “*Astraea sulcata Davisii*”. In Powell’s manual (1979)<sup>2</sup> it’s been included in *Cookia sulcata*, and this placing has been followed since.

And more about Mr Davis shortly...



The abbreviation “A.M.N.H.” in Hamilton’s text refers to a paper in the *Annals and Magazine of Natural History* of 1891 in which Edgar A. Smith<sup>20</sup> revised the genus *Pythina* and illustrated a specimen of *Pythina stowei* Hutton from “New Zealand” in the British Museum collected by Dr Sinclair in 1856 (Plate XIII, figs D-F) noting it as “ornamented with strong divaricate plicæ, the entire surface being minutely shagreened or punctate.”

← Smith’s illustrations (1891).

So it looks as if Stowe, whoever he was, could be called Te Papa’s first conchologist! But apart making this “throw-away” remark, I wasn’t able to find out much more about him very readily. I searched the museum archives to see if there was anything more on him, especially if he was actually a paid employee (“sedulously engaged”?) – but to no avail. However, I did learn from Ross O’Rourke, Collection Manager of Foreign History & Antiquities at

Te Papa, that the museum held a collection of Egyptian antiquities lodged by some relatives of Edwin Stowe<sup>21</sup> – and that set me delving further, having found out about the Mollusc, so now on to the Man commemorated by it!

I was able to meet Mrs Mary Watt, of Brooklyn, Wellington, who is the granddaughter of one of Edwin Stowe’s brothers, and she very kindly gave me a background of family history (the Archivists of Brasenose College and of Wadham College, Oxford University, kindly filled in further details for me). It seems that the Stowe brothers were quite a distinguished set. Sons of Dr William<sup>22</sup> and Mrs Mary Stow (née Rogers), they hailed from the county town of Buckingham in England, residing first of all in the family home of Trolly Hall, 61 Castle Street, and were educated at Iffley, Rugby, and (except for the youngest son) at Oxford. The eldest, William Henry (1825-1855)<sup>23</sup> was admitted to Oxford in 1843, BA, Wadham College 1848, and became a Fellow of Oriel in 1852, a great distinction, so the Archivist tells me, in that the fellowship was open to all comers (i.e. other than present members of the college), entered at Lincoln’s Inn and on the staff of *The Times* 1852. He became a war correspondent in 1855 and ‘Benevolent & Patriotic Distributor’ of “*The Times Fund*” (collected through the agency of that newspaper in aid of the sick and wounded in the Crimean war), which was put at the disposal of Florence Nightingale

(and it's coincidental that Florence Nightingale spent her 'declining' years at Claydon Hall in Buckingham, the Stowes' home town). William Stowe fell victim to the climate in the Crimea (and, because of the incredibly crowded conditions, being refused admission, "helpless and agonized with disease",<sup>24</sup> into one of very hospitals which he had been assisting through this Fund) on 22 June 1855 and was buried at Balaclava. Alfred (1833-1915), became an Oxford don, entrance Scholar in 1853 and Fellow of Wadham College in 1862, Bursar 1869-1893, and Secretary to the University Chest [i.e. the University financial office] 1868-1872. Leonard, the youngest, born in 1837, didn't go to Oxford but came out to New Zealand in the *Lady Alice* (519 tons, Capt. Smith), arriving in Nelson, after a voyage of 132 days, in January 1859, and working first on the farm of Arthur Seymour, Superintendent of the Province of Marlborough, then (probably stimulated by his employer) becoming Provincial Clerk in 1863 and Returning Officer for the Wairau and Picton. He married into the Greenwood family of Motueka.<sup>25</sup> He had a long career in government service<sup>26</sup> (for which he was made a CMG), having been appointed Clerk to the Legislative Council in 1865 (when the capital moved to Wellington), then Clerk to the Parliaments from 1889 until his retirement after 54 years' service (on his death in 1920 some very fine tributes were paid to him in Parliament).<sup>27</sup> He was buried in the Bolton Street cemetery. Somewhat remarkably, his father-in-law, Dr Danforth Greenwood [Headmaster of Nelson College 1863-65] was a Serjeant-at-Arms of the House of Representatives from 1866 to 1877 – hence, something of a family affair! A portrait of Leonard Stowe is in the *Cyclopedia of New Zealand* (1897) with some notes on his parliamentary offices.<sup>28</sup>

Edwin, the Stowe brother with whom we are concerned here, was born in Buckingham on 11 November 1835, was educated at Rugby School, matriculated at Oxford University on 16 June 1853, aged 18, and became a member of Brasenose College.



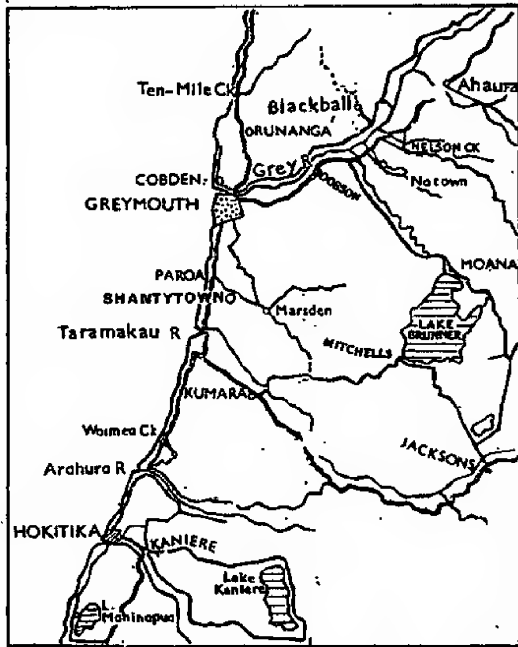
Edwin Stowe (1835-1928)

He was awarded the Somerset Scholarship in 1854, attained a Second Class in Classical Moderations (i.e. the first public examination for the B.A. degree in Classics) and also received the Reading Prize (the Somerset Scholarship was founded under the benefaction of Sarah Ahlston, Dowager Duchess of Somerset. This was an "open" scholarship, i.e. one not limited to a particular school, county or family (hence highly competitive). Oxford University abolished such limited scholarships after 1857, so Edwin got his just in time! In 1858 he took his B.A. with a 4<sup>th</sup> Class, and at some later stage, he went out to New Zealand also – he was certainly here by 1867. He apparently returned to England and worked as an archaeologist in Egypt, allegedly with the famous Flinders Petrie.<sup>29</sup> During his time in England he wrote a small (cr. 8vo) but very scholarly book on the painter Velásquez, the first version apparently in 1881 with several later editions.<sup>30</sup> He may have been in London around 1880/1885 as representative of the Stowe Brothers' "New Patent Adding Machine" venture.<sup>31</sup> And a decorated paper-mosaic work box was purchased by the Victoria and Albert Museum in 1901 from an "E. Stowe." At some time later Edwin must have returned to New Zealand; he died, aged 93, on 15 September 1928 as a patient at Porirua where he is buried (his death certificate, somewhat surprisingly, gives his length of residence in New Zealand as 7 years, implying that he returned at the age of 86 – truly a traveller!).

Some, if not all, of his Egyptian collections came to New Zealand and were held on the Hawera farm, *Punarima*, of Miss Sylvia Lysaght (one of his brother Lionel's granddaughters, and sister to my informant Mrs Watt and also to the late Dr Averil Lysaght<sup>32</sup>) in Taranaki whence they were transferred in 1974 to the National Museum of New Zealand [= Te Papa] by curators Ross O'Rourke and Michael Fitzgerald. However, there is still some uncertainty as to when Edwin was in Egypt since the Museum has a very early donation of an "Ancient Egyptian Scarabaeus of vitrified Porcelain, 3000 to 4000 years old" noted as from "Thebes, U. Egypt. 1860" presented by "Mr E. Stowe" on 1 June 1869.<sup>33</sup> Other specimens are dated as collected in 1882 (notably a card once holding a gunflint labelled in Stowe's hand as "found by E.S. in the entrenchments held by Abercrombie. E. of Alexandria. 1882-3.")<sup>34</sup> It may be that Edwin had collected this scarab himself in 1860 – that is, on an earlier trip than with Flinders Petrie who first began work in Egypt in 1880 – and Edwin could, indeed, have returned to Egypt about this time. Although Leonard Stowe and his family continued to thrive in Wellington, residing at the Thorndon end of Tinakori Road [his house is still there, and now occupied by Mr Peter Young] – hence Stowe Hill<sup>35</sup> – brother Edwin seems to have faded from the record, and but eventually died and was buried at Porirua where he had been a hospital patient for some time. We do know that he must have been in England in 1915 because one of Alfred's obituaries records Edwin's attendance at his funeral. However, the two Stowe brothers who came to New Zealand did leave quite a material legacy to Te Papa, not just the Egyptian collection and the shells with their associated names, but also a range of items (some of which were recorded in the early published accession lists of the Colonial Museum), ranging from a "Specimen of Cotton from Feejee Islands" in May 1867, "Bark of *Hoheria populnea* var. *Angustifolia*" in May 1871, "Maori Skull, and Pumice, Waikato Heads" in September 1872, "Knobs of Rata, polished" in November 1873, "Model of Strong's Excelsior Entrance Gate" in March 1877, to a "Lower Jaw of Maori" in April 1879. Leonard was, apparently, an inventor<sup>31</sup> as well as a Parliamentary officer. Among his patents were "Stowe's Quick-branding Machine", his "Performing Sums in Addition" and "The New Patent Adding Machine." (the Stowe "connection" in London – as well as possible whereabouts of any still-existing machines – needs to be followed up by a historian of Science, too – it would be fun, too, to make a facsimile to-day!). According to the entry in the *Cyclopedia of New Zealand*,<sup>28</sup> it was believed that Stowe's machine, which was – actually a Fifth Prize) was the forerunner of the totalisator, subsequently so well-known by generations of New Zealand race-goers.<sup>36</sup>

Leonard was a member of the Wellington Philosophical Society in 1869 (possibly also 1868) but not listed as such after 1872, and, rather strangely, his brother Edwin – who delivered several papers to the Society, the first being "Notice of a meteor observed from Wellington" in 1870 – is not listed amongst the membership at all.

However, Edwin Stowe did publish a description of a new shell himself as recorded in the *Transactions of the New Zealand Institute* issued in 1872.<sup>37</sup> This was named "*Imperator Davisii*" which had "been discovered at low water at the cliffs at Nelson, N.Z., by the late Mr E.H. Davis, of the New Zealand Geological Survey." The measurements given were "Axis" 4.5 inches, "breadth" 3.25 inches, and it was noted: "This shell is the only example at present obtained" with and added editorial comment – "Another specimen has since been obtained in the same locality." In his Presidential Address to the Wellington Philosophical Society, delivered on the same evening (25 September 1872) on which Edwin Stowe read his paper describing this new shell, Mr W.T.L. Travers alluded to the death of Mr Davis "whose melancholy death by drowning, whilst in the performance of his duties, has deprived this colony of a talented and zealous worker in the field of science." And he remarked that "he was with Mr. Davis when the shell was found, and that it inhabits pot-holes worn in the sandstone rock that can only be reached at low tide."



The story of Davis's death on 9<sup>th</sup> February 1871 while attempting a crossing of the Ten-mile Creek on the West Coast is remarkable in that he was the first, and probably the only, New Zealand geologist to die in the carrying out of his field work.<sup>38</sup> Sadly, perhaps, apart two Geological Survey Reports (Thames Goldfields, and Nelson districts) and some brief notes published in the *Transactions of the New Zealand Institute*, Davis is probably only remembered now for that dubious honour. Even the shell named for him has been "sunk in synonymy" – as an odd variation of our well-known symbol *Cookia sulcata*!

Hutton, in his 1873 *Catalogue*,<sup>10</sup> included what he called *Imperator (Cookia) davisii*, giving its measurements as "Length, 3.65; breadth, 3.3; angle of spire, 57° to 60°", recording it from "Cook Strait and Blind Bay", remarking: "The spire is much more acute than the last" [*Imperator (Cookia)*

*cookii* - i.e. *Cookia sulcata* – for which he noted the spire angle as 86° to 92°], and concluding: "... but perhaps it is only a variety." (In his 1880 *Manual*, he gave the same details, although, this time, placing *davisii* in the genus *Calcar* of Montfort) – and so it is now regarded – although not a "variety" in a taxonomic sense, but rather just an odd specimen that falls within the known variation of what we now know so well as *Cookia sulcata* (Gmelin, 1791)].

Hutton,<sup>10</sup> himself, then described another new species, collected at Picton, after Stowe – as *Anomia stowei* – which is now regarded as within *Pododesmus zelandicus* (Gray, 1943). Leonard Stowe is recorded in the Colonial Museum accession list of 1869 as having presented a specimen of a "Recent Shell, *Anomia*."<sup>33</sup> – which may well have served as Hutton's "type" of *Anomia stowei* [although it should be commemorating Leonard, as donor, rather than Edwin.]

Since *Cookia sulcata* is the "logo" of our Wellington Shell Club, here's a bit more history about "our" shell ...

Suter's figure of "*Astraea sulcata Davisii*", Plate 41, fig. 3



Suter (1906: 325)<sup>39</sup> drew attention to the neglect by conchologists in not collecting the earlier stages of shells which, he believed, may "show characters which in the adult are often more or less obliterated by corrugation, &c. As an example was Davis's "*Astralium*", young specimens of which Suter had collected when he was living in Auckland from two beaches: Takapuna and Narrow Neck. He found that they agreed "perfectly" with *Risella kielmannsegi* Zelebor, 1866, which was just one of the four synonyms which he listed then (and also in 1913) for young of what he was recognising as "*Astralium sulcata Davisii* Stowe".



In the next volume of the *Transactions*, following the one in which he had described his new "*Imperator*", is another paper by Edwin Stowe – on the effect of wind-driven sand as a cutting

agent.<sup>40</sup> And there's also another earlier note by him<sup>41</sup> about a meteor (four times the size of Venus!) which he'd seen on at 5.19 p.m. on Tuesday 31<sup>st</sup> May 1870 over Wellington – visible for all of 5 seconds!

Earlier on, I mentioned that Hector, in the preface to the Museum's 1870 catalogue, had stated that Edwin Stowe had "contributed a large number of duplicates, which we will be useful for exchanges ..." This, in 1870, suggests that Edwin quite probably had already been a collector overseas (as implied by his gift of Fijian cotton to the Museum in May 1867) as well as in New Zealand. It was recalled to me by Mrs Mary Watt that there were shells in the "schoolroom" at the Lysaght farm where the Egyptian collection was housed – but we have found no further evidence as to their existence or subsequent fate. Nevertheless, this is worth recording here in case, as happens sometimes with collections, the material reappears or can be subsequently identified as to its source.

Now, what about the locality where *Myllita stowei* was first found? Bruce Marshall suggested to me that, perhaps, it was most likely to be a former name for the island in Island Bay – and he was spot on! In the Museum library I found an Admiralty chart of Wellington Harbour (first published in 1856, and with only minor updates to 1927)<sup>42</sup> on which what we now know as Tapu-te-ranga Island is clearly shown as "Reef Islet" (there's more about the history of this name in accounts by Adkin<sup>43</sup> and Best<sup>44</sup> – but I haven't found out when the Maori name was applied – interesting to see, also, that Balaena Bay, as we see it now, was then "Balena", also Owhiro Bay as "Ohiro").



So there you have it – the "type locality", as it's called, is right there – and if you collect any *Myllita* from there, you'll be able to call them "topotypes" – specimens from the original place of collection. The two original specimens in Te Papa which Hutton used for his description are labelled "syntypes" which means that no one specimen had been selected by him as the "type" specimen – what would, to-day, be called a "holotype". (The designation of "type" categories for specimens is quite fascinating but, rather complicated; in the 19<sup>th</sup> Century "type" was used in a very loose way or not mentioned at all quite often; Bruce Marshall has some useful comments on this problem in relation to shell collections in Te Papa).<sup>45</sup>

And, finally, what about that generic name *Myllita*, itself? *Myllita*, as a scientific name, was proposed on 15<sup>th</sup> August 1850 by d'Orbigny and Récluz for a new genus of bivalve mollusc found in Australia<sup>46</sup> – "... nous a déterminés à faire de cette coquille le type d'un nouveau genre que nous avons nommé *Myllite*, de l'un des surnoms attribués à Vénus." – i.e. the Roman Goddess of Love &c., the Greek Aphrodite or Cytherea, the Syrian Astarte [two other molluscan genera!], and the Babylonian Ishtar.<sup>47</sup> "*Myllita*" is also an ancient Sumerian-Babylonian Goddess of Heaven, Earth and Air, and of Grain, called "Queen Wind", consort of Enlil, the "Lord Wind" – all the stuff of myths and legends.<sup>48</sup> The name is sometimes given as "Mylitta."

So, that's a great deal that's emanated from the finding of a little bivalve mollusc on a lonely Wellington beach! It seems there's a story behind every little thing ... even connecting that little shell with the opportunity of re-creating a long-lost pioneer computer.

## ACKNOWLEDGEMENTS

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<sup>1</sup> POWELL, A.W.B. 1976: *Shells of New Zealand*. 5<sup>th</sup> Edition. Christchurch: Whitcoulls Limited. Pp 1-154, pls 1-45.

<sup>2</sup> POWELL, A.W.B. 1979: *New Zealand Mollusca. Marine, land and freshwater shells*. Auckland: Collins. Pp xvi + 1-500, illus.

<sup>3</sup> SUTER, H. 1913/1915: *Manual of the New Zealand Mollusca with Atlas of Quarto Plates*. Wellington: John MacKay, Government Printer. Pp xxiv + 1-1120; pls 1-72.

<sup>4</sup> FINLAY, H.J. 1926: A further commentary on New Zealand molluscan systematics. *Transactions and Proceedings of the New Zealand Institute* 57: 320-485.

<sup>5</sup> PONDER, W.F. 1967: Observations on the living animal and mode of life of some erycinacean bivalves. *Transactions of the Royal Society of New Zealand, Zoology* 10 (3): 21-32, figs 1-20.

<sup>6</sup> SPENCER, H. G.; WILLAN, R.C. 1996: The marine fauna of New Zealand: Index to the Fauna: -3. Mollusca. *New Zealand Oceanographic Institute Memoir* 115: 1-125.

<sup>7</sup> SPENCER, H.G.; WILLAN, R.C.; MARSHALL, B.A.; MURRAY, T.J. Checklist of the Recent Mollusca described from the New Zealand Exclusive Economic Zone - <http://toroa.otago.ac.nz/pubs/spencer/Mollusca/index.html/>

<sup>8</sup> RAVEN, J.L. 2003: The Wellington Shell Club lists. *Cookia* 14: 1-49.

<sup>9</sup> DAWSON, E.W. 1994: F.W. Hutton (1836-1905) pioneer New Zealand naturalist: a bibliography & taxonomic analysis. *Occasional Papers of the Hutton Foundation New Zealand* 5: iv + 1-150.

<sup>10</sup> HUTTON, F.W. 1873: *Catalogue of the Marine Mollusca of New Zealand, with diagnoses of the species*. Colonial Museum and Geological Survey Department, Natural History Publication 5. Wellington: Government Printer. Pp xx + 1-116, 1 pl.

<sup>11</sup> YALDWYN, J.C. 1982: Publications of the Colonial Museum, 1965-1907, Dominion Museum, 1907-1973, and National Museum of New Zealand, 1973-1981. *National Museum of New Zealand Miscellaneous Series* 4: ii + 1-42.

<sup>12</sup> BASTINGS, L. 1953: History of the New Zealand Society, 1851-1868. A Wellington scientific centenary. *Transactions of the Royal Society of New Zealand* 60 (3&4): 359-366.

<sup>13</sup> FLEMING, C.A. 1967: Science, Settlers, and Scholars. The centennial history of the Royal Society of New Zealand. *Royal Society of New Zealand, Bulletin* 25: xiv + 1-353, illus.

<sup>14</sup> [HECTOR, J.] 1870: *Catalogue of the Colonial Museum, Wellington, New Zealand*. "Published by Authority". Wellington: J. Hughes, Printer. Pp x + 1-237.

<sup>15</sup> HAMILTON, A. 1906: List of New Zealand Mollusca in Colonial Museum (arranged in order of the "Index Novae-Zealandiae: with additions." *Colonial Museum Bulletin* 1: 27-51.

<sup>16</sup> HUTTON, F.W. (ed.) 1904: *Index Faunae Novae Zealandiae*. London: Dulau & Co. for the Philosophical Institute of Canterbury. Pp viii + 1-372 [Henry Suter provided the molluscan names in this compilation, in which he gave *Myllita* as "*Myllita*", as did Smith 1891].

<sup>17</sup> See *Appendix to the Journals of the House of Representatives* 1875, H.-37. Persons drowned in New Zealand rivers (Return of) - (30 June 1870 - 30 June 1871), at page 1, E.H. Davis, 8<sup>th</sup> February 1871.

<sup>18</sup> *Pythina Stowe* Hutton, 1873:76, 2 syntypes, Museum of New Zealand Te Papa Tongarewa mollusc collection M 335, and *Imperator Davisii* Stowe, 1872, but the latter listed as missing – see pages 8 and 47 in: MARSHALL, B.A. 1996: Molluscan name-bearing types in the Museum of New Zealand Te Papa Tongarewa. *Tuhinga, Records of the Museum of New Zealand Te Papa Tongarewa* 9: 1-85.

<sup>19</sup> HUTTON, F.W. 1880: *Manual of the New Zealand Mollusca*. Colonial Museum & Geological Survey Department. Published by Command. Wellington: James Hughes, Government Printer. Pp xvi, iv + 1-224.

<sup>20</sup> SMITH, E.A. 1891: Remarks upon the genus *Pythina* of Hinds and the species which have been referred to it, upon *Mysella* of Angas, and the description of a new species of *Mytilus* [sic]. *Annals and Magazine of Natural History* (6) VIII (45): 227-236, pl. XIII.

<sup>21</sup> NATIONAL MUSEUM OF NEW ZEALAND 1988: [Leaflet] *Ancient Egypt. Ihpa Tawhito. Display Guide. National Museum of New Zealand Te Whare Taonga o Aotearoa*. [Stowe's name given incorrectly as "Edward".]

<sup>22</sup> Dr William Stowe (c. 1791-1860) became a member of the Royal College of Surgeons of England in 1813 and a Licentiate of the Society of Apothecaries in 1817. He is remembered not only for some textbooks on toxicology but also as an amateur naturalist of some repute, having published two scientific notes (*Magazine of Natural History* in 1831; *Quarterly Journal of the Geological Society of London* in 1850), discovering bones of a new dinosaur (*Cetiosaurus*), and becoming the central figure in the famous Buckinghamshire fossil rush of 1856/57 as related by Emeritus Professor Hugh Torrens (1987) at pages 497 to 499 in an article in *The Geological Curator* 4 (8) [for 1996]: 493-501.

<sup>23</sup> See *The Concise Dictionary of National Biography*. Vol. III:N-Z. Oxford University Press, 1992. Pp 2141-3334 (William Henry Stowe at p. 2878).

<sup>24</sup> Report in *The Times* [London] 6 July 1855.

<sup>25</sup> See NEALE, J.E. 1984: *The Greenwoods. A pioneer family of New Zealand*. Nelson: General Printing Services, Ltd Pp xi + 1-96, illus.; STACE, H. 1993: Greenwood, Ellen Sarah 1837-1917. P. 178 in: *The Dictionary of New Zealand Biography*, Vol. Two (1870-1900). Wellington: Bridget Williams/Department of Internal Affairs. Pp xx + 1-664.

<sup>26</sup> In the 'Civil List' of 1875, published in the *Appendix to the Journal of the House of Representatives* 1875 H.-11, at page 30, Lionel Stowe is listed with a salary of £400 per year – an interesting comparison with the £300 which Edward Davis was given as an assistant geologist in 1870.

<sup>27</sup> NZPD, 1920: The late Mr. Leonard Stowe, CMG. *New Zealand Parliamentary Debates. First Session, Twentieth Parliament*, Vol. CLXXXVI (2): 16-17 [Speech by the Attorney-General, Hon. Sir Francis Bell, 30<sup>th</sup> June 1920].

<sup>28</sup> *The Cyclopaedia of New Zealand*. (1897). Vol. 1 – Wellington Provincial District. Christchurch: The Cyclopaedia Company, Limited. Pp xxviii + 1-596, illus.

<sup>29</sup> Sir William Matthew Flinders Petrie (1853-1942), Edwards Professor of Egyptology at University College, London (1892-1933), was the first to carry out a systematic method of excavation in Egypt, training many young Egyptologists until 1924. He began there in 1880, publishing a major study of the Great Pyramid of Gizeh in 1883 (*The Pyramids and Temples of Gizeh*. London: Field & Tuer. Pp xvi + 1-250). However, in his list of helpers at this site from 1880 to 1882, there is no mention of Stowe – who, in fact, would have been, 18 years Petrie's senior!). Similarly, there is no mention of Stowe amongst the friends of Petrie "who have joined various portions of the work here described, 1884-1903" in Petrie, W.M. Flinders, 1904: *Methods & Aims in Archaeology*. London: Macmillan and Co., Limited. Pp xviii + 1-208, illus.), nor in Petrie's 1893 book *Ten Years' Digging*. London: The Religious Tract Society. Pp ii + 1-201, and not in Margaret S. Drower's biography of Petrie (1985) *A Life in Archaeology*. London: Victor Gollancz Ltd. Pp xxiv + 1-500.

<sup>30</sup> Velásquez. "By Edwin Stowe, B.A. Formerly Scholar and Exhibitioner of Brasenose College, Oxford". London: Sampson Low, Marston, Searle and Rivington. (Great Artist Series). Pp vi, [2], 115, [1], 15 pls. A later version (undated but, from internal evidence, after 1924), held in the National Library of New Zealand, "Re-edited" by Horace Shipp and Flora Kendrick has the following revealing comment (In Foreword, at p. vi): "Mr. Edwin Stowe's book puts before us the triumphant progress of Velásquez' life and art. The subject has tempted the author to prose which seems at time a little grandiose but he has succeeded in conveying by his style something of the romance of the painter's career ..."

<sup>31</sup> STOWE BROTHERS, LONDON 1885: *The New Patent Adding Machine. Messrs Stowe Brothers, 32, Essex Street, Strand, London. Inventor and Patentee, Leonard Stowe, Wellington, New Zealand*. Wellington: Lyon & Blair, Printers, Lambton Quay. Pp 1-4; *Machine for Performing Sums in Addition*. A.D. 1879, 3<sup>rd</sup> November. No. 4474. Provisional Specifications. Office of the Commissioner of Patents. Pp 1-4. London: HMSO, 1880.

See also - *Appendix to the Journal of the House of Representatives* 1882. Vol. III: H.-3, page 3, Item 330, Leonard Stowe. Letters Patent lapsed through non-payment of Registration fee, up to 22<sup>nd</sup> September, 1881. *Appendix to the Journals of the House of Representatives* 1882. Vol. III. H. -5A: 1-8 (Melbourne International Exhibition, 1880. (Papers related) at p.7: "Amongst the curiosities of the [New Zealand] Court is Messrs. Stowe Brothers' new patent adding-machine, which is to abolish or minimise certain arithmetical calculations." Extract from the Melbourne *Argus* 6<sup>th</sup> October 1880; *AJHR* 1889. H.-1:15. "An invention for branding bales and other soft goods and sacks, to be called "Stowe's Quick-branding Machine"; *AJHR* 1890. Vol. III. H.-1: 33 – Branding

bales, &c. Although mention is made of the Stowe machine in a recent review of the history of computing in Australia and New Zealand (Bolton, B. & Williams, N. 1996: Calculating before the chip. An Australian perspective. *Australian & New Zealand Physicist* 33 (7): 143-152, at page 149; Tee, G.J. 1887: Comments on Calculating before the chip: an Australian perspective. *Australian & New Zealand Physicist* 34 (1/2): 5-7, at page 6 [I thank Dr Garry J. Tee for these references]), there is no mention of the 1885 leaflet in which the suggestion lies that the machine may have been available in London 5 years after its showing in Melbourne. Inquiries at the Science Museum, London, Museum Victoria, Melbourne, and the Power House Museum, Sydney, have not yielded any existing examples; but we do have illustrations of what it must have looked like.

<sup>32</sup> See THOMSON, A.D. 2000: Lysaght, Averil Margaret 1905-1981. Pp 300-301 in: *The Dictionary of New Zealand Biography*, Volume Five. Wellington: Auckland University Press/Department of Internal Affairs. Pp xxvi + 1-680.

<sup>33</sup> HECTOR, J. 1869. *Geological Survey of New Zealand. Fourth Annual Report on the Colonial Museum and Laboratory: together with a report on the results of certain analyses*. Published by Command. By Authority: George Didsbury, Government Printer. Wellington. Pp 1-18. [P.7, "Recent Shell, *Anomia*. Mr. L. Stowe." - p. 8, Wind-worn stone, Lyall Bay, and Egyptian scarab, presented by Mr E. Stowe.]

<sup>34</sup> In 1801 the Scottish General Sir Ralph Abercromby (1743-1801) led an expeditionary corps to Egypt with the mission of removing the French forces left at Alexandria by Napoleon in 1798. With an army of some 11,000, Abercromby decisively defeated the French force of 20,000 at the Battle of Alexandria on 21<sup>st</sup> March 1801 by landing at Aboukir[Abu Qir] Bay and pressing towards Alexandria. But, amongst the British casualties of 1468 killed, wounded, and missing, was Abercromby himself, mortally wounded and dying a week later (the military historian Charles Rathbone Low rather quaintly noted: "The gallant victor has received a sabre wound in the chest, which however was of a trifling nature, and a musket ball in the thigh, which was of a more serious character" - and that Abercromby "expired of mortification of his wound, in his 68<sup>th</sup> year, on the evening of the 28<sup>th</sup> March."). The French losses were 1160 dead and some 3,000 wounded. The French army capitulated, and the remainder left for France in September. The action took place on the narrow strip of land between the sea and Lake Aboukir near the old Roman town of Nicopolis [now part of the greater city of Alexandria, known as El-Rami], founded by Caesar Octavius Augustus in 24 B.C. to commemorate his final victory over Antony in 30 B.C. (after which Egypt became a Roman province until A.D. 640). Abercromby's "entrenchments" extended across this isthmus, the right side with a redoubt dug into the ruins of Nicopolis and the left side on the lake at Aboukir and the Alexandria Canal. Perhaps it was while he was exploring the ruins of the Roman town that Edwin Stowe picked up his gunflint. About the same time as Stowe was near Alexandria, another military engagement took place there when the combined French and British fleets bombarded Alexandria on 11<sup>th</sup> July 1882 during the uprising of the self-appointed Pasha, Ahmad Urubi (who was later defeated by the British at Tell-al-Kabir. [Information sources: BUDGE, E.A. Wallis, 1910: *The Nile, Notes for travellers in Egypt and in the Egyptian Sudan*. 11<sup>th</sup> Edition. London: Thos. Cook (Egypt) Ltd. Pp xxiv + 1-976, illus.; SETON-WILLIAMS, V. & STOCKS, P. 1988: *Blue Guide, Egypt*. 2<sup>nd</sup> Edition. London: A. & C. Black. Pp 1-743, illus.; LOWE, C.R. 1908: *Battles of the British Army*. London: George Routledge and Sons, Ltd. Pp 1-514, illus.]

<sup>35</sup> IRVINE-SMITH, F.L. 1948: *The Streets of My City*. Wellington: A.H. & A.W. Reed. Pp 1-325.

<sup>36</sup> There is, however, evidence amongst the applications for Patent registration to be found in the volumes of the *Appendix to the Journals of the House of Representatives* about this period of the late 1880s that quite a number of other New Zealand inventors were trying to perfect various kinds of totalisators.

<sup>37</sup> STOWE, E. 1872: Description of a new shell found at Nelson. *Transactions and Proceedings of the New Zealand Institute* IV: 218-219 [read before the Wellington Philosophical Institute on 1 July 1871]

<sup>38</sup> Two other people associated with James Hector apparently died tragically also but there is no evidence, so far as I am aware, that they were geologists [Peggy Burton's history - *The New Zealand Geological Survey 1865-1965. DSIR Information Series* 52: 1-148 - lists staff from 1865 but there is mention of any similar deaths]. Rather tantalizingly, *The Evening Post* (Wellington) of 11 February noted, at page 2c: "There seems to a strange fatality attending Dr. Hector's associates in his scientific labours, Mr. Davis being the third who has perished by drowning within a comparatively short space of time. Of course we need hardly say that the two others referred to are Messrs. Balfour and Thompson." Perusal of the reported drownings in rivers up to 30 June 1871 (*Appendix to the Journals of the House of Representatives* 1870. D-46: 1-10, & *AJHR* 1875. H-37:1-3 gave only the names of George Balfour, Tokomairiro River, SE Otago, 10 December 1869 and a "Thompson" in the Grey River, Westland, 31 July 1865. Balfour may, however, refer to James Melville Balfour (1831-1869), an uncle of Robert Louis Stevenson, who was employed as a marine engineer by the Otago Provincial Council from 1863 to 1866 (and therefore known to, if not a colleague of, Hector who was then Provincial Geologist). Balfour became Marine Engineer for all New Zealand and Superintendent of Lighthouses. His drowning at Timaru on 18 December 1869, aged 32, is described in the Hector/Hooker letters at page 232 (Yaldwyn J. & Hobbs, J. (eds) 1998: *My dear Hector. Letters from Joseph Dalton Hooker to James Hector, 1862-1893. Museum of New Zealand Te Papa Tongarewa Technical Report* 31: 1-292, frontis., figs 1-20), see also pp 102-104 in: F.W. Furkert, 1953: *Early New Zealand Engineers*. Wellington: A.H. & A.W. Reed. 310 p.

The story of E.H. Davis, who left us a transitory patronymic in our Conchological history, is worth noting in more detail here:

In a letter [see p. 646 in H. von Haast 1948: *The Life and Times of Sir Julius von Haast*. Wellington. Pp xii + 1-1142] to Julius Haast dated 5 July 1870, Dr James Hector, Director of the Geological Survey of New Zealand remarked: "Hutton's place has been filled up by Davis, a fine young fellow from Jermyn Street school, F.G.S. and F.C.S., and a first-rate chemist."

[The "Jermyn School" refers to the 'Government School of Mines and Science Applied to the Arts' which began in a purpose-designed building in Jermyn Street, London, in 1851 [when Sir Andrew Ramsay, Director of the Geological Survey of Great Britain

was appointed to the first chair of Geology] and changed its name in 1863 to the 'Royal School of Mines' and merging with Imperial College of the University of London in 1907.]

Edward Heydelbach Davis was born about 1846 at Dalton, Cumbria (then in Lancashire) in a well-established family [they had a Governess and 4 House Servants *vide* 1851 Census], the 4th son of the 6 children of Magdalen and James Davis of Tytup Hall [its history detailed in Melville, J. 1975: *Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society* LXXV], Dalton-in-Furness, near Ulverston, Cumbria. His father, originally from Hackney, London, was a mine owner (employing 136 men) and Ironmaster (employing 96 men), involved with the local haematite iron ore. Edward, appears to have been directly recruited to New Zealand by Dr James Hector; he sailed from Melbourne, Australia, on 19 February 1870, with his wife, in the S.S. *Omeo* arriving in Wellington in March (interestingly, on the shipping list, he is listed as "Gentleman" rather than geologist or chemist.) His personal file, in the Te Papa Archives [MU 000147, box 3], reveals that in April 1870 he was given temporary employment by Dr James Hector in the Geological Survey (which had been established with the Colonial Museum in 1865). Hector then offered him a staff appointment in July at a salary of £25 per month with an allowance of 10/- per day for field expenses, which Davis accepted – as a matter of comparison, according to Peggy Burton's history, Hector's salary, as Director of the Geological Survey in 1866 was £800, his clerk £300, and his Messenger and Museum Assistant £150. Edward Davis seems to have been held in high regard, and managed to publish two fairly substantial geological reports and a few short papers on his chemical analyses and field work. He was well qualified before he came to New Zealand, having been put up for Fellowship of the Geological Society of London on 11 April 1866 (apparently while he was living or working at Marina Grande, near Lisbon) by Sir Andrew Ramsay, his Professor at the School of Mines (in the Archives of which he is noted as a matriculated student who had attended the Winter Session October 1864 and the Spring and Summer Sessions, January and April, 1865). One of his seconders was his eldest brother, signing himself J. Frederick Davis, then of the Walker Iron Works, Newcastle-on-Tyne, who, himself had become an FGS in 1861. On 7 June 1866 Edward was elected a Fellow of the Chemical Society (a brief obituary is in the *Journal of the Chemical Society* 25: 345; 1872). He was admitted as a member of the Wellington Philosophical Society on 25 June 1870 (the same evening that Edwin Stowe read his note on a meteor seen over Wellington – so, perhaps, a friendship was begun then, resulting in Stowe naming a new species for Davis in due course!). However, within some 6 months, Davis had been drowned while attempting to ride his horse across a West Coast creek. His "Diary of Movements" in the Museum files details what he accomplished in his fieldwork from 12 January to 2 February 1871 on which day he noted that he "was searching for fossils in the Cobden Limestone."

Accompanying this diary (which was recovered from his body) is a set of instructions from the Director of the Geological Survey, Dr James Hector, of what he expected Davis to do. The report of the District Coroner (Caleb Whitefoord Esq.), also in our archives [originally printed in *The Grey River Argus* of 11 February 1871, the inquest having been held, surprisingly quickly perhaps, on the day after his death] probed the circumstances of Davis's fate: drowned while crossing the Ten-mile Creek, North Beach, up the coast from Cobden, the evidence showing that he attempted to cross the flooded creek – notoriously dangerous as witnesses testified – when horse and rider rolled over about 100 yards from its mouth. A picture of the Ten-mile showing the hole in rock at its mouth through which travellers took a short cut appears in the late Tony Nolan's book *Gold Trails of the West Coast* (Wellington: A.H. & A.W. Reed, Pp 1-88, illus. 1975).

In April 1871, the Colonial Secretary authorised a grant "not exceeding a year's pay = £300" to Davis's widow who soon after was given a voucher for £150 for expenses for his funeral (an interesting comparison with what she might have got to-day by way of compensation?). The *Evening Post* of 15<sup>th</sup> February 1871 noted at page 2e: "The remains of the late Mr. E.H. Davis, which were brought from Greymouth yesterday by the *Alhambra*, were interred to-day. The funeral was a very large one, being attended by nearly all the members of the Civil Service, besides a number of other gentlemen resident in town." He was buried on 15 February 1871 in the Bolton Street cemetery, which, as Wellingtonians know, was subsequently drastically remodelled after the motorway was cut through the Thorndon area. A footnote to one of Davis's reports published in Volume III of the *Transactions of the New Zealand Institute*, issued in May 1871, attributed to the Editor [James Hector] has the final word: "While this volume is in the press, the small staff of scientific workers in New Zealand, on the 9<sup>th</sup> ult., suffered a great loss, through the accidental death, by drowning, of this talented and promising geologist, while engaged in surveying the Grey River coal field, on the west coast of Nelson. – Ed. March, 1871." Although Davis's name is now lost to the world of science, although not entirely unassociated with the geological exploration of New Zealand, he can be remembered as a young man who achieved important field work and was able to publish some significant results in the remarkably short time of some in which he was employed here. One of his short papers has, in fact, been reprinted recently (see *Micro-Scope, Newsletter for the Micro-minerals Collectors of New Zealand*, November 2001) by the granddaughter of one of his two brothers (Will and James who had come to New Zealand ahead of him in 1858) – Jocelyn Thornton, herself well-known for her highly-successful *Field Guide to New Zealand Geology* (now in its 3<sup>rd</sup> edition, 2003) and *Gemstones* (1985).

<sup>39</sup> SUTER, H. 1906: Notes on New Zealand Mollusca, with descriptions of new species and subspecies. *Transactions and Proceedings of the New Zealand Institute* XXXVIII: 316-333, pl. XVIII.

<sup>40</sup> STOWE, E. 1873: On the effect of wind-driven sand as a cutting agent. *Transactions and Proceedings of the New Zealand Institute* V: 105-106 [read before the Wellington Philosophical Society on 25 September 1872].

<sup>41</sup> STOWE, E. 1870: Notice of a meteor observed from Wellington. *Proceedings of the New Zealand Institute* III: 24 (issued separately, July 1870, as Part I of *Transactions of the New Zealand Institute* III – published in 1871) [read before the Wellington Philosophical Institute on 25 June 1870].

<sup>42</sup> *Admiralty Chart 1423*. "Port Nicholson. From surveys by ... H.M. Surveying Ship *Acheron*, 1849 ... *Penguin*, 1903 ... Wellington Harbour Board, 1903-4 ... with corrections to 1923." [Hand-annotated to 1927]. Published. July 26<sup>th</sup> 1856. New editions to 1913, and subsequently new chart NZ 4633 issued by the NZ Hydrographic Office from 1951.

<sup>43</sup> ADKIN, G.L. 1959: *The Great Harbour of Tara. Traditional Maori place-names and sites of Wellington Harbour and environs*. Christchurch: Whitcombe and Tombs Ltd. Pp 1-145, illus.

<sup>44</sup> BEST, E. 1918: The Land of Tara and they that dwelt therein. Part 5. *The Journal of the Polynesian Society* XXVII (4) : 165-177.

<sup>45</sup> MARSHALL, B.A. 1996: Molluscan name-bearing types in the Museum of New Zealand Te Papa Tongarewa. *Tuhinga, Records of the Museum of New Zealand Te Papa Tongarewa* 9: 1-85.

<sup>46</sup> D'ORBIGNY, A.; RÉCLUZ, C. 1850: Description d'un nouveau genre de coquilles bivalves nommé Myllite (*Myllita*). *Journal de Conchyliologie* 1 (3): 288-292, pl. XI, figs 12-14 ["*M. Deshayesii*" from "La Nouvelle-Hollande, sur les plages sablonneuses (M. l'amiral Cécile)" - size 11 x 13 mm. Six species of *Myllita*, including *M. deshayesii* d'Orbigny & Récluz, 1850, are described and illustrated in: LAMPRELL, K. & HEALY, J. 1998: *Bivalves of Australia*, Vol. 2. Leiden: Backhuys Publishers. Pp 1-288, 778 figs.

<sup>47</sup> *Pears Encyclopaedia of Myths and Legends*. Book 1. S. Savill. London: Pelham Books, 1978. Pp 1-233, illus.; *The Myths of Greece and Rome*. H.A. Guerber, 1907. Revised ed. 1938. London: George G. Harrop & Co. Ltd. 424 p, illus.

<sup>48</sup> Mesopotamians and their Gods, part 2 - Chapter 9 (edited by Robin Landry) in *Earth's Ancient History: a theory about Ancient Times and Dawn of Mankind*, by L.C. GEERTS, 1998/2003 [pre-publication on website [www.earth-history.com](http://www.earth-history.com) of a forthcoming book].

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### A POSTSCRIPT REGARDING 'MYLLITA AND THE MEN'

After I had written my article on *Myllita stowei*, in which Edward Heyelbach Davis, the late lamented pioneer geologist tragically drowned in 1871 at the age of 25, was discussed, I discovered (through the kind offices of Alan Mason, editor of the Newsletter of the Historical Studies Group of the Geological Society of New Zealand) that Dr Mike Johnston, noted geological historian of Nelson, had been interested in the doings of E. H. Davis for over 20 years and had, in fact, recently completed a 50,000 word manuscript on Davis and his contribution to geology. Dr Johnston has now kindly sent me some of his texts\* but, fortunately for members of the Wellington Shell Club - who I'd imagine are more interested in the shell once named to commemorate Davis than in the man himself, let alone his geological work - I have not included any of this new information in my article (nor have I been in contact with Jocelyn Thornton, granddaughter of one of Davis's brothers, who was able to help Dr Johnston a good deal with his biography). However, I am indebted to Dr Johnston for his kindness in telling me more about Davis. Any Shell Club members whose interest in Davis may have been aroused can look forward to reading the full account by Dr Johnston in due course.

A week or so ago, I crossed the Ten Mile Creek myself (safely, however, by car on a well-sealed road and staunch bridge). The creek still has steep and formidable sides and a somewhat forbidding aspect. The traveller, to-day, might well pause and spare a thought for the young geologist who perished there 132 years ago, and who could probably have become one of New Zealand's most talented geologists.

\* 5 November 2003

Elliot Dawson



# CAPE CAMPBELL/MARFELL'S BEACH TRIP

By Graham Aamodt

On a recent trip to Marfell's beach some club members found their way to the Cape Campbell lighthouse where they investigated a number of seemingly dilapidated cabins - probably used in connection with the lighthouse when it was looked after by a keeper and family. Enquiries resulted in the owners allowing the Wellington Shell Club to rent the cabins at \$15 per head per night. So a trip was discussed at subsequent club meetings and as a result of strong interest Carolyn Krebs booked the cabins. A commentary of the trip from my perspective follows:

Event: Wellington Shell Club shell collecting

Where: Cape Campbell

When: 1-3 August 2003

Cast: Jenny Raven  
Graham Aamodt  
Pat Lakeman  
Ian Townsend  
Carolyn Krebs  
John Marston  
Jenny Walton  
Kerry Walton  
Don Watson  
Pat Watson  
Mary Agnes Wotton

On 1 August a lovely day dawned - the day of the Wellington Shell Club's trip to Cape Campbell/Marfell's beach. With much anticipation of things to be found Pat Lakeman and I arrived at the ferry terminal, checked in and located some of the other club members. On board the ferry we quickly made a beeline for the main bar and settled in for a very smooth Cook Strait crossing. The crossing was uneventful apart from the ferry sailing delayed by an hour due the Police interviewing members of a motorcycle gang prior to allowing them on board.

Eventually we all met up and after a cooked breakfast (7/10 for cost, quality and quantity) settled down to a beer or two and a chat. Towards the end of the crossing most of us got involved in the *DominionPost's* target and managed to get a very healthy 38 words out of a possible 44.

Arrived in Picton at about 1.00pm and picked up two rental cars (Don came across with his Toyota Hi-ace van) and agreed to meet at the local supermarket. However, the car with Jenny & Kerry, Pat & me was further delayed as Pat found a very nice man shucking scallops on his boat - after a brief introduction and not one to miss an opportunity she was on board requesting the discarded shells. Obviously Pat played the right tune as the fisherman cleaned out the flesh of the remaining shells very carefully indeed, even managing to keep the pairs joined. Finally loaded up the car (and found room for two shopping bags full of the scrumped scallop shells) and joined the others at the supermarket.

Now when it comes to shopping, I am of the firm belief that women excel in that they do stick to needs and tend to avoid desires. I can go into a supermarket for a few items and finish up with a trolley load. Pat and Carolyn were given the responsibility to ensure that we were all fed and watered during the weekend of intense collecting and they did a magnificent job. The two Jenny's and I got our priorities right and purchased beer (DB of course), wine and chippies.

All loaded up (both cars to the gunwales) - next stop Marfell's beach on the low tide for a spot of collecting in and around the rocky area at the Northern end.

For people who aren't familiar with the area, Marfell's beach is about ¼ hour drive from Blenheim and 18 kms SE from Seddon. The turnoff from SH1 is just down the road from Lake Grassmere (where the salt works is) and is well signposted.

We all had a bit of a fossick and only a few good shells were found, mostly with hermit crabs. Kerry found a juvenile *Calliostoma pellucidum* and lots of dead *Argobuccinum* (some with periostracum still attached) were found wedged between boulders and up on the high tide line. After about an hour we headed off to Cape Campbell.

About 2 kms back from Marfell's beach there is a turnoff to the Cape Campbell lighthouse. Capt James Cook named the Cape in February 1770 after Vice Admiral John Campbell. Apparently Campbell introduced Cook to the Council of the Royal Society in 1768 (even back then it was not what you knew it was who you knew). The local Tangata Whenua know the Cape as Te Karaka.

The area is dominated by the 22m high Cape Campbell lighthouse which stands on a ridge some 47m above sea level. It is a very distinct landmark as it is painted white with three black bands. The original lighthouse was built in 1870 to protect vessels from the treacherous coastline with its reefs and tricky tides. Despite the warning a number of vessels foundered with the loss of many lives. The original wooden tower was replaced in 1905 with a more robust metal structure built by Judd Engineering Works at Thames and was manned until 1986 when it became fully automated. The light has a range of 27 nautical miles (about 45kms) and the tower now includes a radio beacon for shipping and air traffic in the area.

The road to Cape Campbell is a private road and you need the landowner's permission to get access. There are about eight gates with the first one locked - so a key does come in handy. The road (more of a track really) is quite windy with steep drop-offs in places. At this time there were a lot of pregnant ewes and lots of lambs gambolling all over the place so we did need to be cautious and try not to scare the livestock.

After about half an hour negotiating gates (a big thanks to Jenny Raven's crew for being in front) we arrived at the coast. Gosh, what a sight large swells with crashing waves against outer reefs - it's no wonder that a lighthouse is needed there. We followed the road for a few kilometres and eventually arrived at a trio of weatherboard cabins.

The first one included 7 or 8 beds, toilet and shower but no electricity. Mary Agnes, Jenny Raven, Carolyn and Ian opted to sleep there. The middle cabin was chock full of all the mod cons you could ever want - electric stove/oven, microwave, large fridge/freezer, deep chest freezer, loads of pots, plates glasses and utensils - in fact better equipped than home. At the back of this batch there were a couple of beds quickly commandeered by Don & Pat Watson. The third cabin had two bunks and 3 beds, no ablutions but electricity and Pat, Jenny, Kerry and I stayed in this cabin. For some reason John opted to sleep in Don's van.

As meals were prepared in the middle cabin (and it had good heating and hot shower) we all met there morning and evening to eat, chatter and gloat over finds.

As it was already starting to get dark thoughts turned away from shells to food. Dinner on the first night would have put most restaurants to shame - Jenny Walton, Pat Lakeman and Don cooked up a lovely meal of steak, chops, sausages accompanied with mashed potato, broccoli, peas and zucchini and this was washed down with sparkling, red, white wines and in my case a beer or three. After dishes (no dish washer - though Ian and I did a good job) we sat around and played some of Kerry's shape games (he is one very sharp 10 year old), talked more and explored the many books, magazines, photos/maps on walls and in scrapbooks, not to mention all the bits and pieces written and visual on the Marlborough area, the lighthouse and the history of the Cape (did I tell you there was everything you could possibly want?).

The next morning was an absolute shocker weather-wise, very cold with a howling wind and alternate drizzle and rain. But this does not deter intrepid shell collectors. While most of us were having breakfast a few people were already pounding the beaches looking for shells. After doing the dishes I battled my way the right hand side of the beach and kept my eyes (watering as they were) firmly fixed to the beach debris in front of me. I picked up a rather nice *Haliotis virginea* but it had a small hole on in the middle. There were also *Haliotis australis*, *Cookia sulcata*, *Argobuccinum*, *Modelia granosa*, *Cabestana spengleri*, *Haliotis iris* and other like shells. About 200 metres along I notice a portion of a *Haliotis virginea* protruding from the sand and with baited breath I lifted the shell to find a beautiful clean specimen in almost perfect condition. It measured a whopping 68mm in length and was of gorgeous colour (see photo).

Later in the morning and in spite of the wind Kerry and I climbed the steps up to the lighthouse. The views from the ridge were quite good although with the weather squally it was difficult to see far. After coming down (mostly on all fours) and just about being blown off the ridge by the gale force winds we met up with some of the others in the middle hut, chatted, listened to the horse racing on the radio and played more of Kerry's games.

Still not satisfied with the day (although I was still gloating somewhat over my lucky find) Jenny, Kerry, Pat, Ian and I hopped in the car and went about 2km back down the road to look along the reef that we saw when we first arrived. The setting also seemed just right for finding a feed of *H. iris* more commonly known as paua. It was extremely cold and after fossicking about for around 10 minutes with practically nothing found we decided to head back. Ian was more than happy to leave the place as somewhere on the reef he lost his brightly coloured woolly hat.

On the way back the sun appeared and the drizzle/rain abated giving us all a new lease of energy so a 100 metres or so from the cabins we piled out back onto the reef. The reef at this point went surprisingly a long way out and about half way to the outer edge the sun cried enough and more squalls arrived. Looking back to the matchbox car (which seemed so very far away) Ian and I decided to stay out on the reef platform in the hope of finding something out of the ordinary. There were quite a few different limpets on the exposed rocks - *Cellana denticulata*, *Cellana strigilis*, and *Cellana flava* and under the loose smooth boulders were some *Cellana fragilis* as well as a few live *Cookia sulcata*, *Buccinum* and juvenile *Haliotis iris*.

Well, enough was enough - Ian and I conceded to the weather gods as we were thoroughly wet (even the undies) and I was so cold that I could not feel my fingers and toes, not to mention my teeth clattering. On the way back in we noticed Pat Lakeman resplendent in wetsuit searching high and low for legal size Paua and spied Don Watson in wetsuit and snorkelling gear also

heading out to the edge of the reef in the quest to provide a feed of Paua (and maybe a crayfish or two).

After getting back, changing into some warm clothes and taking best part of an hour to warm up Don turned up, and as expected, (you can always rely on Don) he had a good haul of paua. Don also managed to grab a good size crayfish but unfortunately for us (fortunately for the cray) it was a female packed with eggs so in the interest of conservation (and fisheries law) Don let her go.

Time for a little tip on preparing paua: the most important thing to do is tenderise the meat - the best method is to shuck the paua from their shell by using your thumb at the back end, cut out the guts and the rasp-like teeth then place the steak in a plastic bag and beat the living daylights out of it with a hammer or heavy blunt object. It may sound crude but, believe me, it works and is the secret to juicy melt-in-your-mouth paua steaks.

That night we dined on paua dusted with flour and lightly fried (just warmed through). After dinner and the dishes - 11 people create a lot don't they? - a look at the finds for the day and more games with Kerry, then it was time for Jenny Raven to introduce us to a game of logic.

Now let me first tell you that this game (more of an exercise really) was the product of a course that Jenny Raven went on with the NZ Institute of Management - it explains why a lot of our senior managers don't seem to have a clue where they going or is it where they have been? Anyway, we were put into two teams and told that we were astronauts and crashed our rocket on to a strange planet. Jenny Raven handed out an outline to each member that contained a few facts about them and unique scenario information about their predicament. Each team then appointed a leader, discussed how each team member's information could be of use and, based on this information, chose a direction to go.

The objective was to find a radio station that had all the provisions a team needed to survive, however, along the way we encountered strange aliens, needed to collect water/food and faced many perils. Needless to say that after only a few moves we were all dead - chiefly (as I recall) opting for a move to sand and being stung to death by ghastly insects. Anyway after a slight change of rules both teams managed to arrive at a radio station.

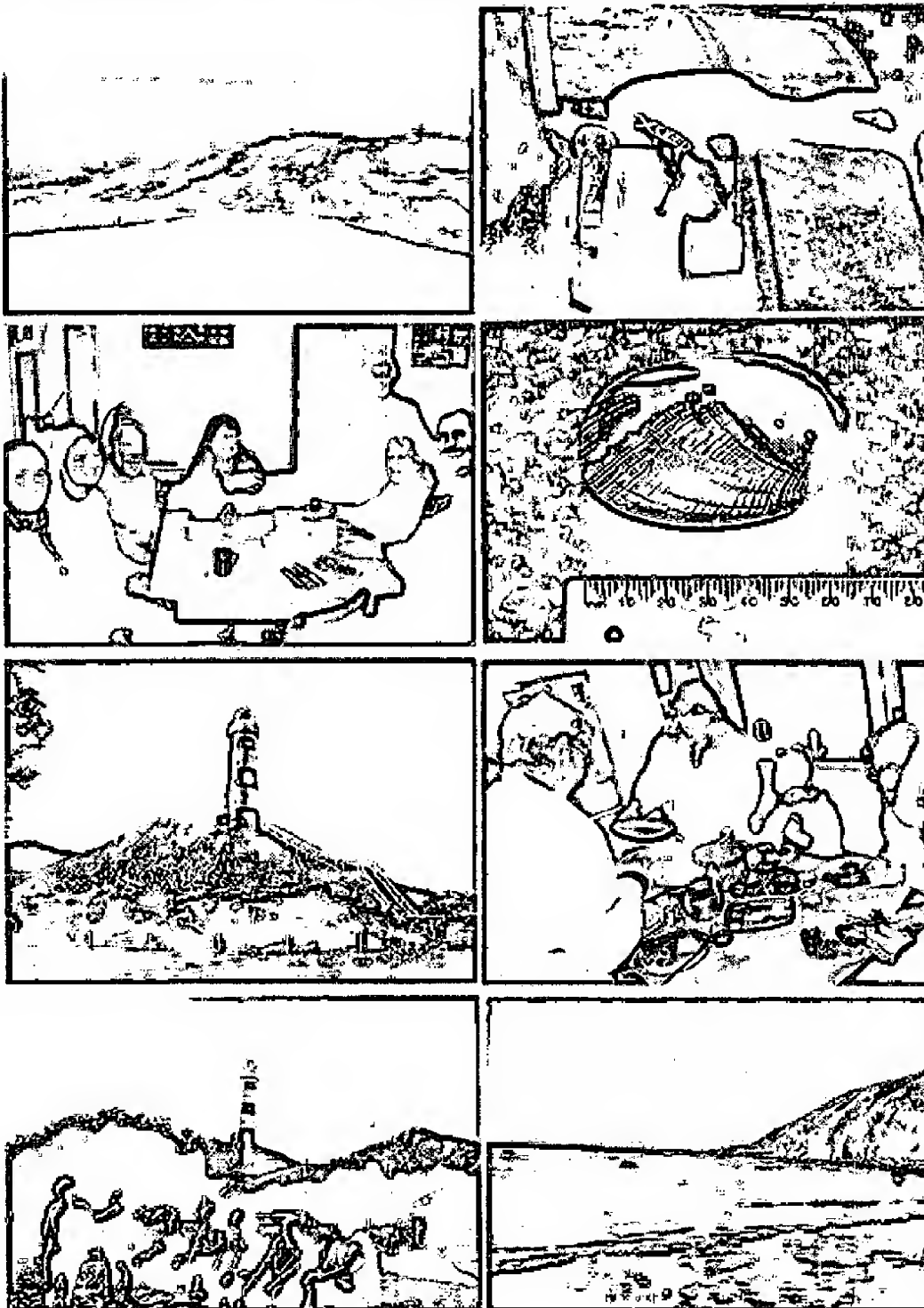
The next day it was calm and clear - a complete contrast to yesterday - and despite the sun just appearing people were already out and about on the shoreline.

Breakfast consisted of mostly leftovers (the "food space" would now be displaced with shell finds) and most of us had a last stroll up and down the beach looking for the elusive find. Finally we loaded up the cars and van, cleaned the cabins and off we went to - YES, you guessed it - more collecting at Marfell's Beach; this time planning to get to mussel point at the Southern end. On the way back through the farm we had a little drama ending up on the wrong track - yes, all right, I was the driver of the lead car and, no, it was not a ploy to avoid opening the gates.

It is quite a trudge out to the point and on this occasion there was not a lot to be found. A few live *Calliostoma punctulata*, were noticed along with *Diloma coracina*, *Cantharidas pupureus* and *opalus*. All along the beach a large number of Angel wing borer shells were strewn, but practically no doubles, and *Dosinia zealandia*, *Iris reflexus* and *elegans*, *Semicassis pyrum*, *Mesopeplum convexum*, *Talochlamys gemmulata*, *Gari convexa* and *Bassina yatei* were also found on the beach and among the rocks.

Finally, after a reasonably full on two days of collecting, it was time to go. Pat Lakeman and I flew home from Blenheim while Don and Pat Watson planned to stay another night in Picton. Ian and Mary Agnes met with Pete Cresswell to stay a few more days in the South Island and the rest of the cast returned to Wellington on the scheduled 6pm Inter Island ferry that departed an hour late.

A big thank you to Carolyn Krebs for making the cabin arrangements and to the entire cast for making it an enjoyable and interesting few days. Pictures speak a thousand words, so here's more.



## REVIEW

MARSHALL, Bruce A. 2003: A review of the Recent and Late Cenozoic Calyptraeidae of New Zealand (Mollusca: Gastropoda). *The Veliger* 46 (2): 117-144, figs 1-82.

Here is another fine example of the service that Bruce Marshall has been providing towards the cause of malacology [conchology if you like] in New Zealand. Rather than devoting all his considerable interpretative skills to the, perhaps more exciting and novel, deep water species, Bruce has given us a thorough revision of a group of gastropods that, I have always thought, are hardly the sort of things with which most shell collectors would be bothered to particularly interested. But this is exactly the point ... by collecting and documenting the distribution of the so-called common, dull, or seemingly-unappealing species, the amateur collector can do much towards the more scientific aspects of molluscan study<sup>1</sup> – and Bruce's acknowledgements [page 141] to members of our Club illustrate this quite well.

In summary, Bruce has reinstated *Maoricrypta* Finlay, 1926, as a genus distinct from *Crepidula* Lamarck, 1799, for those New Zealand members of the Calyptraeidae with two muscles/scars alongside the rim of the septal insertion; and he has described two new species in this genus, *Maoricrypta kopua* and *M. sodalis*. Further, *Maoricrypta monoxyla* (Lesson, 1830) has been re-defined, and *M. youngi* Powell, 1940 has been re-instated as distinct from *M. profunda* (Hutton, 1873).

Those calyptraeids possessing only a single (right) muscle/scar have been referred by Bruce to the genus *Grandicrepidula* McLean, 1995, namely the Cenozoic fossil species *Maoricrypta salebrosa* Marwick, 1929 and *Crepidula densistria* Suter, 1917 and a new living bathyal species which Bruce has named *Grandicrepidula collinae*.

*Zegalerus* Finlay, 1926, is now interpreted as a synonym of *Sigapatella* Lesson, 1830; to the latter genus, Bruce has added two new species, both fossils, *S. ohopeana* and *S. nukumarua*. Finally, Bruce has placed *Sigapatella crater* (Finlay, 1926) within the synonymy of *S. terranova* Peile, 1924. This former species was recorded as occurring as worn beach shells at the Chathams but appear to be fossils derived from the wellknown Titirangi shellbed in which they are common.

The previous confusion – which Bruce has now cleared up – about *Maoricrypta monoxyla* is that, as he states, it “traditionally has been interpreted as a species that lives both inside gastropod shells occupied by pagurid crustaceans [i.e. hermit crabs], and outside living gastropods and bivalves.” Bruce has now revealed that there 3 white, more or less smooth-shelled species of *Maoricrypta*, distinguished by differences in their protoconch size and sculpture, animal pigmentation and habitat:

1. *M. monoxyla*, with a yellow animal and a strongly-sculptured protoconch, found on the outer surfaces of gastropods and mussels from intertidal to about 15 metres depth off the North Island from ....; and two other species, “which typically live within the apertures of helically coiled gastropod shells occupied by pagurids (*never* recorded associated with living mollusks), have whitish animals, more weakly convex or externally concave shells, and more weakly sculptured protoconchs” –
2. *M. sodalis*, which he has described as a new species (but formerly considered as typical *M. monoxyla*), recorded as common and widely-distributed, intertidally to 925 metres offshore, being found also with both the presently re-defined *M. monoxyla* and another new species which Bruce has described –
3. *Maoricrypta kopua*, recorded as occurring living off the Three Kings Islands and northeastern New Zealand in 78 to 400 metres.

So our Recent or present-day living New Zealand members of the family Calyptraeidae are:

1. *Maoricrypta costata* (G.B. Sowerby I, 1824).

Middle Pleistocene to Recent. Cape Maria van Diemen to as far south as Mahia,<sup>2</sup> known from intertidally to 47 metres, attached to underside of rocks and on living *Perna canaliculus*, also attached to *Xenophora neozelanica*.

2. *Maoricrypta youngi* Powell, 1940.

Pleistocene and Recent. Off the North Island from northern Northland to Cook Strait, recorded at lowtide (Castlepoint; collected by Jenny Raven<sup>3</sup> from spire of live *Turbo smaragdus* in rock pools at low tide) and from 18 to 88 metres.

<sup>1</sup> See RAVEN, J. 2003: The Wellington Shell Club. Lists. *Cookia* 14: 1-49.

<sup>2</sup> *Ibid.* at page 46.

<sup>3</sup> *Ibid.* at page 40.

under *Astraea heliotropium*, on *Xenophora neozelanica*, *Penion sulcanus*, *Maoricolpus roseus*, *Charonia lampas*, *Turbo smaragdus*, and *Calliostoma (Maurea) granti*. It is noted that *M. youngi* is locally common as dead shells in Wellington Harbour probably from a *Maoricolpus* substrate.

3. *Maoricrypta monoxyla* (Lesson, 1831).

From northern New Zealand as far south as Cape Runaway (collected at Otamaroa by Bruce in 1977), occurring intertidally to 15 metres, on the outer sides of *Turbo smaragdus*, *Buccinum linea* and *B. vittatum*, and *Perna canaliculus*.

4. *Maoricrypta sodalis* Marshall, 2003 [which includes many of the citations of earlier authors to records of *Maoricrypta monoxyla*].

Late Pleistocene to Recent. Ranging North, South, Stewart Island, and The Snares, from intertidal to 925 metres, typically within the apertures of helically-coiled gastropod shells inhabited by hermit crabs.

5. *Maoricrypta kopua* Marshall, 2003.

Three Kings Islands and northeastern New Zealand to as far south as the Ranfurly Bank off East Cape, in 78-805 metres, living within the apertures of "crabbed" helically-coiled gastropod shells.

6. *Grandicrepidula collinae* Marshall, 2003.

Eastern Northland south to The Snares in 178 to 587 metres, on living or "crabbed" gastropod shells, usually behind rim of the outer lip.

7. *Sigapatella novaezelandiae* (Lesson, 1830).

Late Pliocene or Early Pleistocene to Recent. Ranging North, South, Stewart Islands, The Snares, Auckland and Campbell Islands, and the Chathams to 420 metres, living intertidally to 220 metres attached on hard surfaces.

8. *Sigapatella terraenovae* Peile, 1924.

Late Pliocene/Early Pleistocene to Recent. Off Three Kings Islands, and the northern tip of New Zealand, and the Ranfurly Bank off East Cape to 622 metres, taken alive in 27-93 metres attached on hard surfaces.

9. *Sigapatella superstes* Fleming, 1958.

Off Three Kings Islands and off the northern tip of the North Island (with a long gap to a very fresh juvenile collected by scuba off the Aldermen Islands in the western Bay of Plenty) ranging to 805 metres, attached to hard surfaces.

10. *Sigapatella spadicea* Boshier, 1961.

Late Pliocene or Early Pleistocene to Recent. Ranging North, South and Stewart Islands, 4 to 533 metres, attached to hard surfaces (typically shells).

11. *Sigapatella tenuis* (Gray, 1867).

Late Pleistocene to Recent. Ranging from Three Kings, North, South, Stewart and Chatham Islands to 804 metres, attached to hard surfaces.

Bruce's work is beautifully illustrated by outstanding photographs which clearly show the diagnostic features whereby these species may now be clearly distinguished (compare the sketches in Boshier's account of *Sigapatella spadicea*!). A simple but effective key to their identification has been included also. Unfortunately, a computer "glitch" has slipped the numerals in the key down a space or so; hence the numeral on the lefthand side of the couplet 1 in the key should read '8' not '7' and the couplets 6 to 11 on the righthand side of the key should read from '7' to '11' not '6' to 10'. Nevertheless this key, used in conjunction with the illustrations, will help us all to identify our specimens with certainty, helping us to know this family so much better. The series of distribution maps provide a great stimulus for shell collectors to get out and try to extend ranges or fill the intervening gaps! Thank you, Bruce, for all this; we hope to help you with something more on the Calyptraeidae one day.

E.W.D.

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# WELLINGTON SHELL CLUB

## 2003

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**Contributions for Cookia to** - Elliot Dawson, 17 Kotari Road, Day's Bay, Eastbourne 6008, phone: 562-8912, by 31 May of the year; mailto: edawson@xtra.co.nz

Please use (unless there is a stated reason not to do so given in your manuscript) the molluscan names in the latest 'Checklist of the Recent Mollusca described from the New Zealand Exclusive Economic Zone' by H.G. Spencer, R.C. Willan, B.A. Marshall, and T.J. Murray - which is periodically updated at

<http://toroa.otago.ac.nz/pubs/spencer/Molluscs/index.html>

Authors should also save the editor work by checking the spelling of these names very carefully. Following standard practice, in long lists of species the species names should not be listed in alphabetical order but in systematic sequence (with Family headings) as in the 'Checklist'. Bruce Marshall, our "resident malacologist", is very willing to check identifications or species names for any members who would like his help. Please take advantage of this generous offer. The Editor is always very happy to discuss proposed contributions with members, especially regarding the use of tables and photographs.

**NOTE:** This electronic checklist is a compilation of information that has already been published; it does not contain any original name changes or new records. Therefore, it can be regarded as a "tool of convenience" giving the latest names and where to find the publications in which any new changes will have appeared. New name changes are regularly given in a section entitled "Recent Changes to the Web Page" with a reference to the publication in which the change was made. The Mollusca Section library at the Museum of New Zealand Te Papa Tongarewa contains an unsurpassed collection of the world literature on Mollusca, and the original sources of any name changes can be easily be consulted, by arrangement with Bruce Marshall, if needed. This list is linked to our website, but members without access to the internet can obtain hard copies of whatever sections of the 'Checklist' they need by arrangement with Pat Lakeman, phone 479-2919 or [pat.lakeman@transit.govt.nz](mailto:pat.lakeman@transit.govt.nz)



## WELLINGTON SHELL CLUB PUBLICATIONS

*COOKIA* is the journal of the Wellington Shell Club and is published annually, containing articles and smaller items of interest on shells, shell collecting, and molluscs as well as other related marine topics. Members and other readers are invited to submit contributions (handwritten, typed, or electronic, equally acceptable) but, preferably, these should be in the Editor's hand before the end of May for inclusion in that year's issue (look at a recent issue to see the style to follow).

*Cookia* was first published in 1976; prior to this the Club published a *Circular*, then a *Bulletin*, as well as occasional *Study Notes* on various families of Mollusca.

### PUBLICATIONS TO DATE:

- 1956-1965 *Circular* 1 to 21
- 1967-1975 *Bulletin* 1 to 36
- 1976-1977 *Cookia* Volume 1, Nos 1, 2, 3
- 1977-1978 *Cookia* Volume 2, Nos 1, 2, 3
- 1979-1980 *Cookia* Volume 3, Nos 1, 2, 3
- 1980-1981 *Cookia* Volume 4, Nos 1, 2, 3
- 1982-1984 *Cookia* Volume 5, Nos 1, 2, 3, 4
- 1985-1992 *Cookia* Volume 6, Nos 1, 2, 3, 4
- 1993-1996 *Cookia* Volume 7, Nos 1, 2, 3, 4 (Index)
- 1997 *Cookia* Volume 8
- 1998 *Cookia* Volume 9
- 1999 *Cookia* Volume 10
- 2000 *Cookia* Volume 11
- 2001 *Cookia* Volume 12
- 2002 *Cookia* Volume 13
- 2003 *Cookia* Volume 14 ['The Shell Lists']
- 2003 *Cookia* Volume 15

(*Cookia* Volume 7, No. 4, is an index of all articles in the Club's publications to 1996)

### BACK NUMBERS

Back numbers of *Cookia* are available at cost plus postage; individual articles, and copies of the Bulletins, Circulars and Study Notes can be ordered at 10c per page plus postage, from *The Treasurer, Wellington Shell Club, 84 Brougham Street, Mt Victoria, Wellington, New Zealand*; or see our homepage at [www.actrix.gen.nz/users/littlejn](http://www.actrix.gen.nz/users/littlejn)